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Elastic Networks

YesWare

Applications User's Guide

Software Release 2.30

Document Revision 2.30.1
Publication Date: October 2000

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About this document

This document provides instructions for using the YesWare software suite to manage an EtherLoop or Ethernet system.

Audience

The audience for this document includes network planners, installation technicians, network administrators, and anyone who may be charged with provisioning or maintaining the YesWare system.

Software version note

The YesWare 2.3 software release consists of a base 2.3 rvelease shipped on the YesWare Server and a “super-patch” that must be applied by the Elastic Networks Technical Assistance and Support (TAS) to make the release fully-functional. This document covers the base software release with the super-patch applied.

SECTION I

VISITOR-BASED NETWORKS AND YESWARE

Software Release 2.30

Introducing Visitor-Based Networking and YesWare

This chapter introduces the concepts of visitor-based networking and the purpose and function of YesWare in a visitor-based network.

Chapter topic list

This chapter includes the following topics.

Topic	See
YesWare features new for 2.3	page 1-2
Visitor-based networking	page 1-3
YesWare and VBN	page 1-4
Visitor internetwork access	page 1-6
YesWare VBN transport systems	page 1-8
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Installing a YesWare VBN system	page 1-27

YesWare features new for 2.3

For users familiar with YesWare, this section summarizes the features now available as part of the YesWare 2.3 release. For new users, the remainder of this chapter describes Visitor-Based Networking (VBN) and YesWare's VBN features and capabilities in more detail.

New and enhanced billing capabilities

Billing Manager enables system managers to track usage, authorize user access, generate authorization codes, and transmit records to a hotel property management system to produce consolidated billing. Billing Manager in YesWare 2.3 has the following capabilities:

- **improved Property Management System (PMS) integration** - supports the most widely used HOBIC interfaces used in hotel billing systems
- **improved service logging and reporting functions -** allows service providers a variety of methods for generating reports and retrieving service log information from the YWS
- **Credit Card Billing** - allows for in-room or point of sale high-speed access ordering and payment using visitor credit cards
- **Conference Room Billing** - YesWare's *Conference Room Scheduler* reserves conference rooms based on IP addresses sold to attendees, and automatically enables/disables the high-speed Internet access as needed.

Enhanced Modem Billing for EtherLoop modems

Enhanced Modem Billing enables EtherLoop modems to be managed and billed like YesWare Ethernet ports, and prevents visitors from being improperly billed for YesWare service.

Visitor printing services

The YesWare *Print Services* module allows guests to "click-and-print" files to a specific networked printer such as in a business center or to the front desk. Chapter 12, "Providing visitor printing services" describes the requirements for implementing YesYare visitor printing services.

Visitor-based networking

Until recently, nearly all Ethernet local area networks (LANs) were private. Developed for private use, owned and maintained by private organization, these networks were focused on providing connectivity for a select group of people such as employees. Everyone who used the network was supposed to be able to use it, and the costs of providing that network were considered overhead.

A Visitor-Based Network (VBN) is a network intended for use by temporary users, such as hotel guests, who need a simple, temporary network connection they can use quickly and easily without the assistance of an IT specialist.

Challenges of the VBN

Implementing a VBN presents special challenges to the service-provider. Service billing, not usually a requirement in private LANs, must be carefully monitored and controlled. Resource usage, which is governed almost exclusively by happenstance in private LANs, must also be carefully controlled. Visitor access must be authenticated, but must also be simple. Visitor services must be platform-independent so that guests using a wide range of platforms have access to VBN services.

VBN service-provider benefits

A VBN is a valuable service, and service providers who implement VBN services can create tremendous new revenue and service opportunities within several markets:

- Hospitality/convention centers
- Public convenience kiosks
- Training and seminar rooms
- Sales centers
- Press rooms
- Corporate meeting rooms
- University and business campuses

All of these areas have frequent, business-oriented visitors who would likely use the services of a VBN if one were available. VBN service-providers who want to serve these markets must provide simple connectivity to the VBN, and also have ways to bill for access and control access through network authentication.

YesWare and VBN

YesWare is a suite of system management software used to manage an EtherLoop or Ethernet VBN (see “YesWare VBN transport systems” on page 1-8). YesWare software "modules" support the following VBN functions:

- seamless Internet or intranet access to "visitor" end-user computers
- host site customization and service branding
- visitor authentication and service billing
- system management and maintenance

Advantages of a YesWare VBN

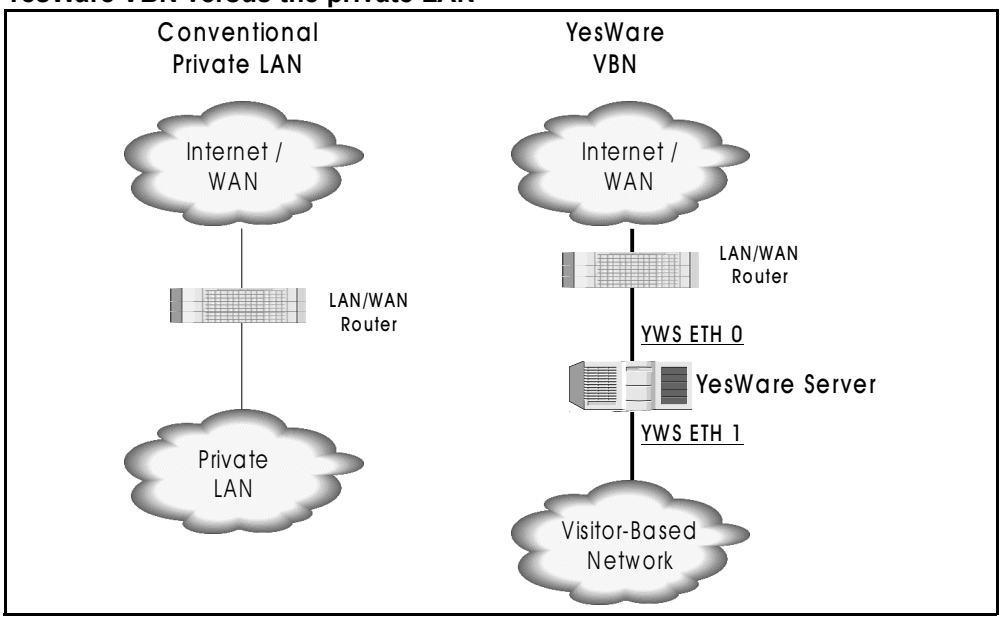
YesWare makes it simple to deliver high-speed Internet access connectivity for a VBN at any location/market. Its "guest-friendly" interface allows plug-and-play simplicity for the mobile computer user, without special software downloads or reconfiguration of TCP/IP settings.

In addition to solving Internet connectivity issues for end-users, YesWare has several features that are key to generating new revenue streams for service-providers. The YesWare software suite provides port authorization controls and automated billing for ports on EtherLoop modems and/or Ethernet switches, allowing Internet access only to authorized, billable guest users. YesWare also supports EtherLoop modem administration functions.

Creating a YesWare VBN

Figure 1-1 shows how simple it is to create a YesWare VBN. Virtually any Internet-ready Ethernet LAN can become a VBN with the addition of the YesWare Server (YWS) device. The YWS provides the necessary layer of management between the network visitors and the Internet gateway router to allow seamless connectivity for the visitors, with the host of features required for service-providers to bill and control this access.

Figure 1-1
YesWare VBN versus the private LAN



Local host network connection requirements

The network hosting the YWS must have the following:

- Ethernet 10/100Base-T termination for the YWS network interface
- network connection to an existing local area network (LAN) or wide area network (WAN) router
- access to the Internet through an Internet Service Provider (ISP) or other Internet account
- valid TCP/IP network address configuration (IP address, network mask, gateway address) for the YWS.

Table 1-1 on page 1-5 lists the protocol requirements for a network supporting the YWS, based on the open systems interconnection (OSI) seven-layer model.

Table 1-1
YesWare host network protocol requirements

OSI layer	YesWare Server protocol requirement
1/Physical	Category 5 unshielded twisted pair (UTP) wiring and infrastructure with RJ-45 terminations
2/Data-link	IEEE 802.3 Ethernet 10Base-T
3/Network	Internet Protocol (IP)
4/Transport	Transmission Control Protocol (TCP)
5/Session	No specification
6/Presentation	No specification
7/Application	Internet Explorer 4.0+ or Netscape Navigator 3.0+

Visitor computer requirements

All YesWare visitor computers must have an Ethernet 10Base-T network interface card (NIC) configured to use the TCP/IP networking protocol. This means the visitor computer must either have a specified IP address, network mask, and gateway, or be configured to use DHCP (Dynamic Host Configuration Protocol).

A YesWare visitor computer can be configured with a TCP/IP address for the resident LAN or a non-resident LAN. YesWare visitors can also be configured for a random (non-existent) LAN, as long as the computer's TCP/IP configuration adheres to basic TCP/IP addressing rules. For example, an YesWare visitor computer cannot be a duplicate of another visitor IP address or have a "broadcast" address such as **255.255.255.255** as its assigned IP address.

Visitor internetwork access

YesWare visitors receive access to the Internet or other internetwork through YesWare's *InterProxy* capability. The *InterProxy* function is unique in that it accepts traffic from TCP/IP clients regardless of a client's IP address configuration.The following sections describe visitor internetwork access using the *InterProxy* module, and the requirements visitor computers must meet to receive InterProxy-based internetwork access.

InterProxy-based internetwork access

The *InterProxy* is a specialized network address translator that enables YesWare visitors with non-local IP addresses to access the Internet or company intranet without re-configuring any IP settings. One YWS unit can connect hundreds of random/non-local visitors to the router/gateway of either an Internet Service Provider (ISP) or the company intranet.

Visitors receiving *InterProxy*-based internetwork access complete the following process:

1 The visitor connects to the YesWare VBN through either an EtherLoop modem or Ethernet switch port, starts the visitor computer and attempts to browse the Internet.

Note: If the port is configured with one of the billing methods used in Enhanced Modem Billing or Ethernet Port Billing, the visitor must provide the required authentication information at this point.

2 The EtherLoop or Ethernet system connects over an intermediate switch or hub to the YWS **ETH 1** interface.

3 At the YWS, the *InterProxy* module translates non-local visitor IP addresses to appear local to the host network, and routes the VBN traffic from the **ETH 1** interface over to the **ETH 0** interface.

4 The **ETH 0** interface connects to the host LAN or LAN/WAN termination which is connected to a WAN such as the Internet or a corporate intranet.

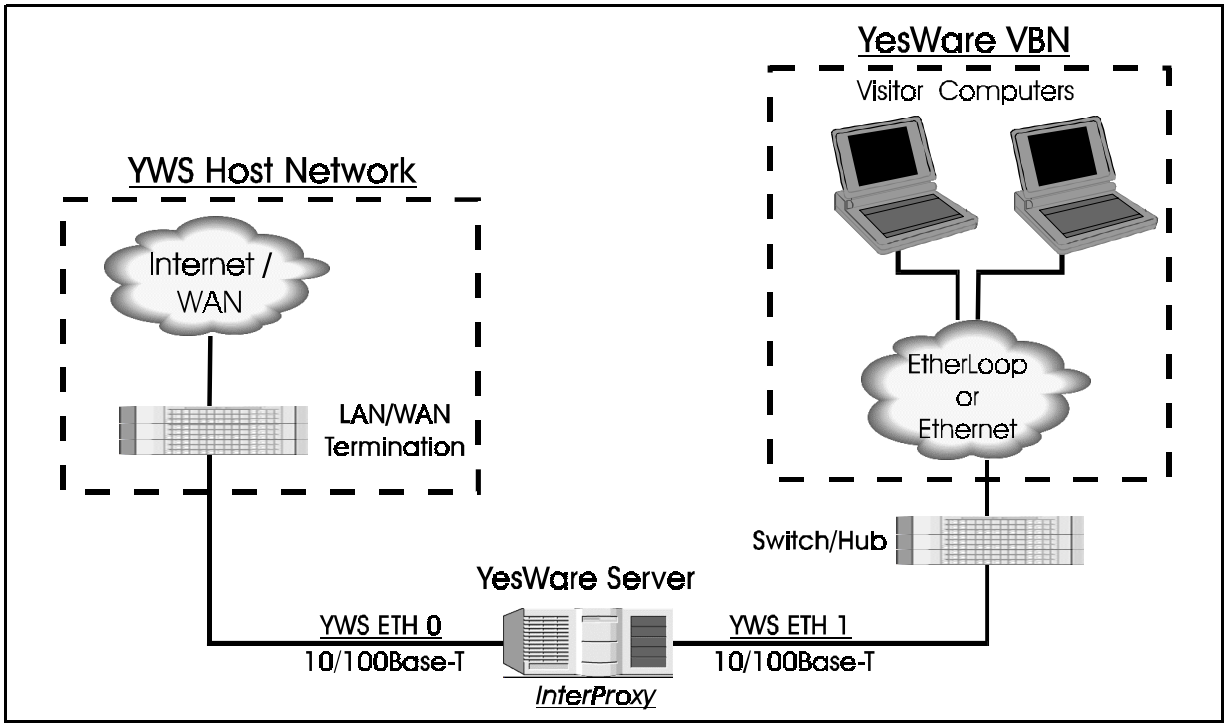
InterProxy-based limitations for visitor computers

InterProxy-based internetwork access has the following limitations:

- Visitors who have assigned IP addresses that are in the same subnet as the **ETH 0** IP address will not receive internetwork access (with the exception of IP addresses provisioned using the *Conference Scheduler* module).
- Visitors that have a home page designated with the "don't use proxies" feature enabled for the home page will not receive internetwork access.

Figure 1-2 on page 1-7 illustrates how the YesWare VBN enables InterProxy-based internetwork access and completes this process.

Figure 1-2
YesWare VBN system architecture



YesWare VBN transport systems

A YesWare VBN system can deliver service using EtherLoop modem pairs, Ethernet switches, or a combination of both EtherLoop and Ethernet transport systems. The following sections describe these YesWare VBN transport systems.

EtherLoop-VBN

EtherLoop is an Ethernet-based modem technology that enables TCP/IP data transmission simultaneously with voice service over the twisted-pair, Category 3 (CAT 3) telephone lines of a local loop. EtherLoop technology provides Ethernet-compatible service in locations out-of-range of standard Ethernet LANs.

EtherLoop-VBN transport systems are ideal for data transmission in environments such as hotel rooms that have no existing data network infrastructure. EtherLoop delivers data transmission speeds comparable to Ethernet at 5,000 feet and reliable service up to 21,000 feet. In addition to guest room service, YesWare's new **Enhanced Modem Billing** allows EtherLoop modem pairs to serve any VBN service area, including conference facilities and uncontrolled public areas.

> ***Note:*** EtherLoop-VBN transport systems that use **Enhanced Modem Billing** cannot be used simultaneously with Ethernet-VBN. See "Combined EtherLoop/Ethernet VBN" on page 1-12 and "VBN billing configurations" on page 1-17 for more information.

EtherLoop-VBN data transport method

Visitor computers connect physically to an EtherLoop-VBN transport system as they would to a conventional Ethernet 10/100Base-T LAN, using an Ethernet network interface card (NIC) and a Category 5 (CAT 5) cable terminated with an RJ-45 connector. EtherLoop systems transmit TCP/IP data and voiceband traffic using modem pairs configured in a point-to-point architecture. EtherLoop modem pairs consist of a **CPE** (customer premise equipment) modem and **CO** (central office) modem. Table 1-2 describes the function of EtherLoop **CPE** and **CO** modems.

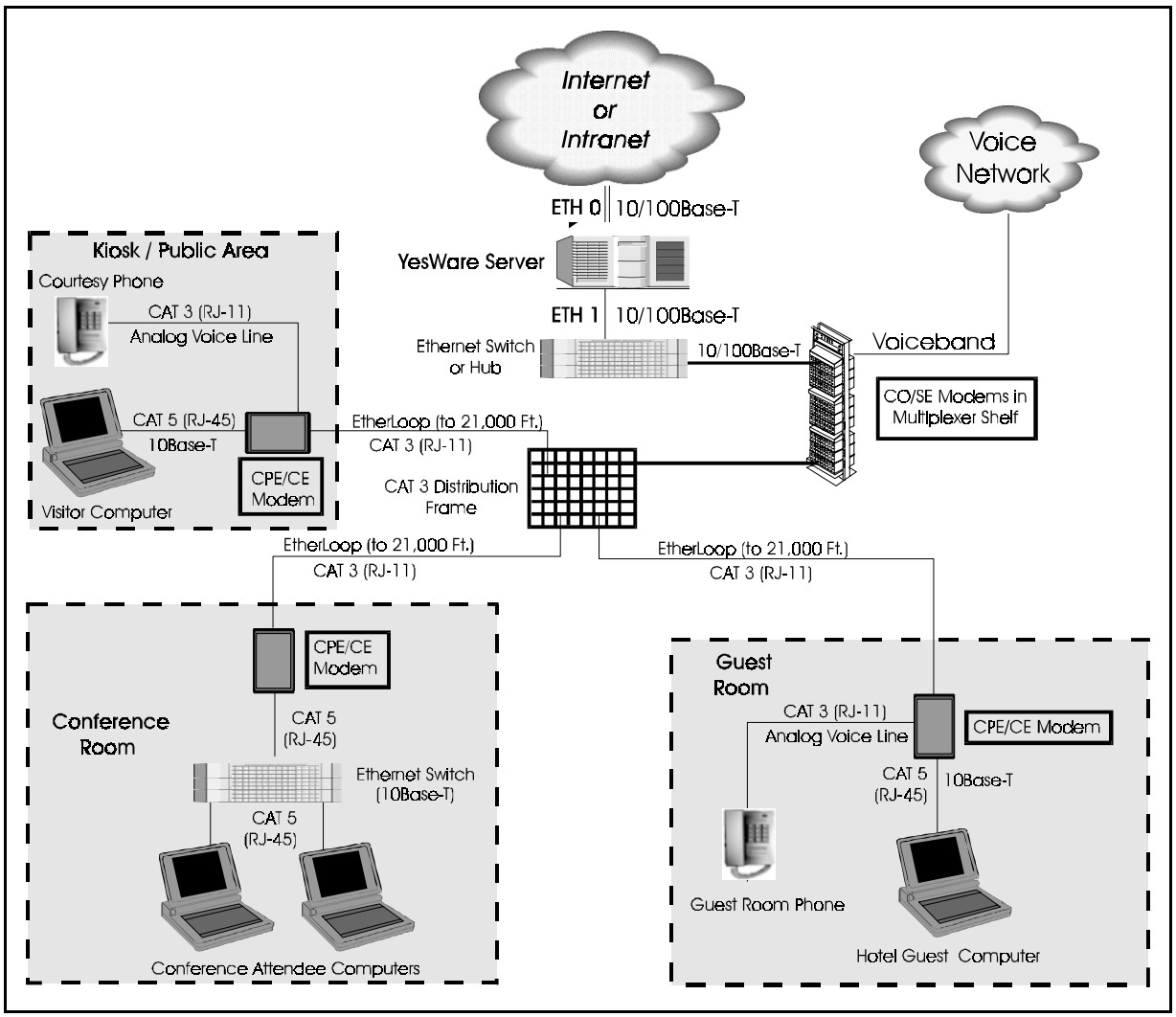
Table 1-2
EtherLoop modem pair functions

EtherLoop Modem	Function
CPE modem	The CPE modem transmits visitor data and voice to its designated CO modem over the Category 3 (CAT 3) facility phone network. The CPE modem connects to the visitor computer through an RJ-45 connection on the back of the modem. The CPE modem also has two RJ-11 jacks on its backplane. One RJ-11 connects to a phone in the room, and the second RJ-11 connects to the wall-jack of the facility phone network.
CO modem	The CO modem controls the traffic flow from the CPE modem to the YWS **ETH 1** interface. The CO modem resides in an EtherLoop multiplexer shelf, typically located in the facility equipment room. The CO modem connects to the YWS **ETH 1** interface via an intermediate Ethernet switch or hub. The CO modems must be on the same LAN segment as **ETH 1**.

EtherLoop-VBN transport architecture

Figure 1-3 shows the transport architecture of an EtherLoop-VBN system.

Figure 1-3
YesWare EtherLoop-VBN transport system



EtherLoop terminology - CO=SE and CPE=CE

In YesWare modules, different terms are used in different modules for the EtherLoop modem pairs.

In some modules, the EtherLoop modem supporting the end-user/client computer is called **CPE** (for Customer Premise Equipment), and the modem connecting to the YesWare Server is called **CO** (for Central Office).

In other modules, the EtherLoop modem supporting the end-user/client computer is called **CE** (for Client End), and the modem connecting to the YesWare Server is called **SE** (for Server End).

Except for the terms used, there is no difference between a **CO** modem and an **SE** modem, or between a **CPE** modem and **CE** modem..

Ethernet-VBN

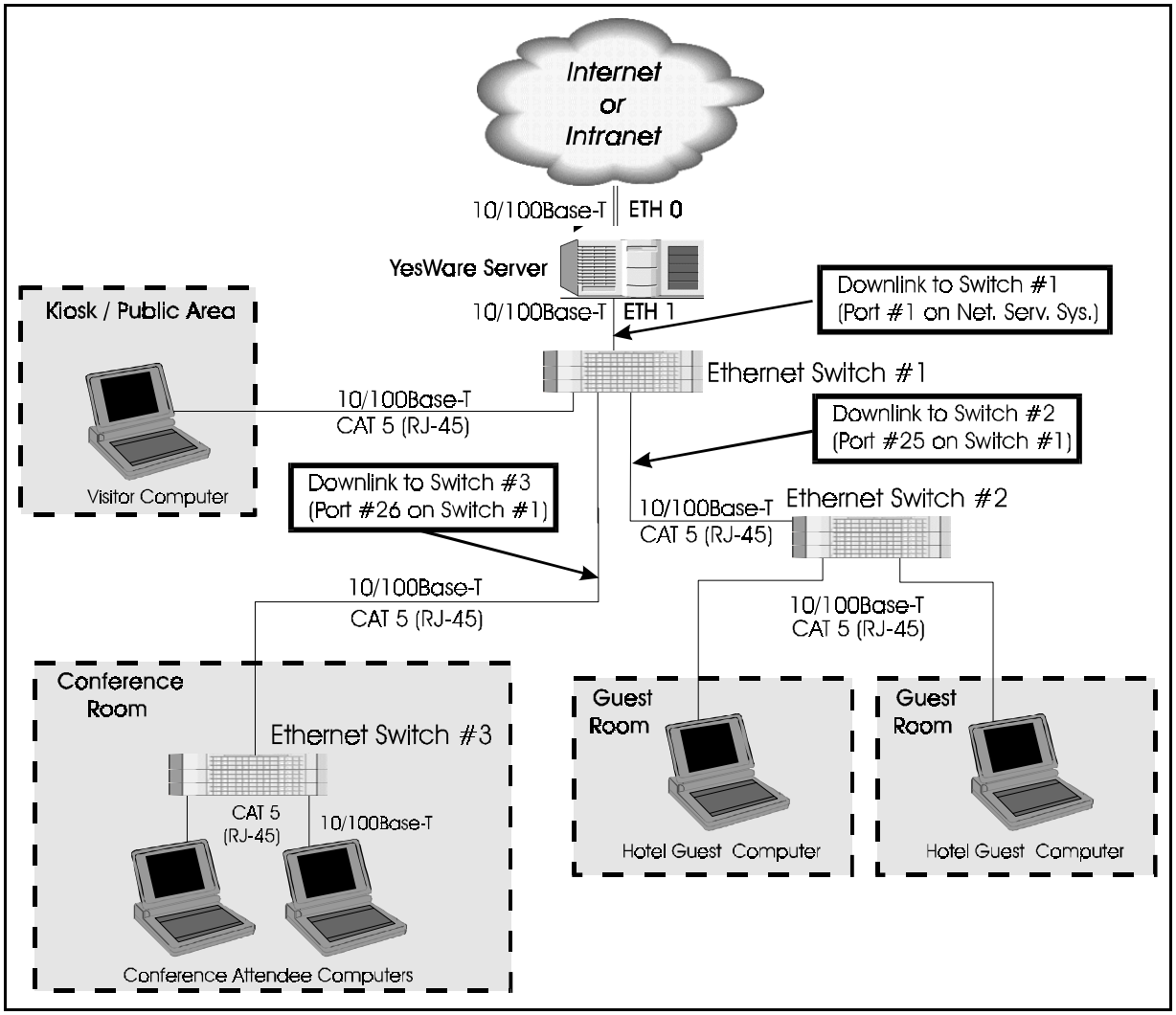
Ethernet-VBN systems are used in areas such as conference and meeting rooms that have an existing Category 5 (CAT 5) Ethernet LAN infrastructure. Visitor computers connect physically to the ports on Ethernet-VBN switches as they would to a conventional Ethernet 10/100Base-T LAN.

> ***Note:*** The Ethernet-VBN transport system cannot be used simultaneously with the **Enhanced Modem Billing** method. See "VBN billing configurations" on page 1-17 for more information.

Ethernet-VBN transport architecture

Figure 1-4 shows an example of the YesWare Ethernet-VBN transport system architecture. See "Ethernet-VBN architecture requirements" on page 1-11 for the requirements to provision the Ethernet-VBN architecture.

Figure 1-4
Ethernet-VBN transport system



Ethernet-VBN architecture requirements

As shown in Figure 1-4 on page 1-10, Ethernet-VBN switches are set up in a physical "tree" architecture. The YWS **ETH 1** interface is provisioned as the "Network Services System" at the "top" of the tree. The Network Services System is provisioned as a single-port switch and serves as the VBN gateway to the host LAN/WAN.

In addition, the following general requirements apply to all Ethernet-VBN systems:

- Visitor computers must have a 10/100Base-T network interface card (NIC) installed and appropriate cabling and adapters. See "Visitor computer requirements" on page 1-5 for complete visitor computer requirements.
- A YesWare Ethernet-VBN system can support most enterprise-class desktop switches comparable to the BayStack 303 or the Cisco 2900XL. Ethernet-VBN switches can contain up to 24 ports (provisioned as ports #1-24) and up to two high-speed/auxiliary ports (provisioned as ports #25-26).
- All Ethernet-VBN switches must have assigned IP addresses. These IP addresses must be identically assigned in both the switch console interface and the YesWare *Port Manager* module.
- Ethernet-VBN switches that are "down" the switch architecture are provisioned by configuring "downlink" ports in YesWare's **Port Configuration** dialog.
- Ethernet-VBN switches that are "up" the switch architecture are provisioned as "Parent" switches.
- Each port connecting "down" to a switch must be configured with the "downlink IP address" of the downlink switch.
- Each switch connecting "uplink" to a parent switch (all switches except the YWS **ETH 1**) must be configured with the IP address of the parent switch.

Ethernet-VBN example

Using Figure 1-4 on page 1-10 as an example, note the following:

- "Ethernet Switch #1" is the parent switch of both "Ethernet Switch #2" and "Ethernet Switch #3."
- The YWS **ETH 1** interface is the parent of Ethernet Switch #1.
- For port **#25** of Switch #1, the IP address of Ethernet Switch #2 must be entered in the "Downlink IP Address" field of the **Port Configuration** dialog.
- For port **#26** of Switch #1, the IP address of Ethernet Switch #3 must be entered in the "Downlink IP Address" field of the **Port Configuration** dialog.
- For port **#1** of the Network Services System (YWS **ETH 1**), the IP address of Ethernet Switch #1 must be entered in the "Downlink IP Address" field of the **Port Configuration** dialog.

Chapter 7, "Provisioning the Ethernet-VBN switches and ports" contains complete instructions for using the Ethernet switch provisioning interface and a more detailed architecture example.

Combined EtherLoop/Ethernet VBN

The combined EtherLoop/Ethernet system serves areas where VBN service is required using both EtherLoop lines (CAT 3 wiring) and Ethernet switch ports (CAT 5 wiring). YesWare's **Ethernet Port Billing** method is used to support the Ethernet (CAT 5) facility, while YesWare's **Modem Connection Billing** is used to serve the EtherLoop (CAT 3) facility.

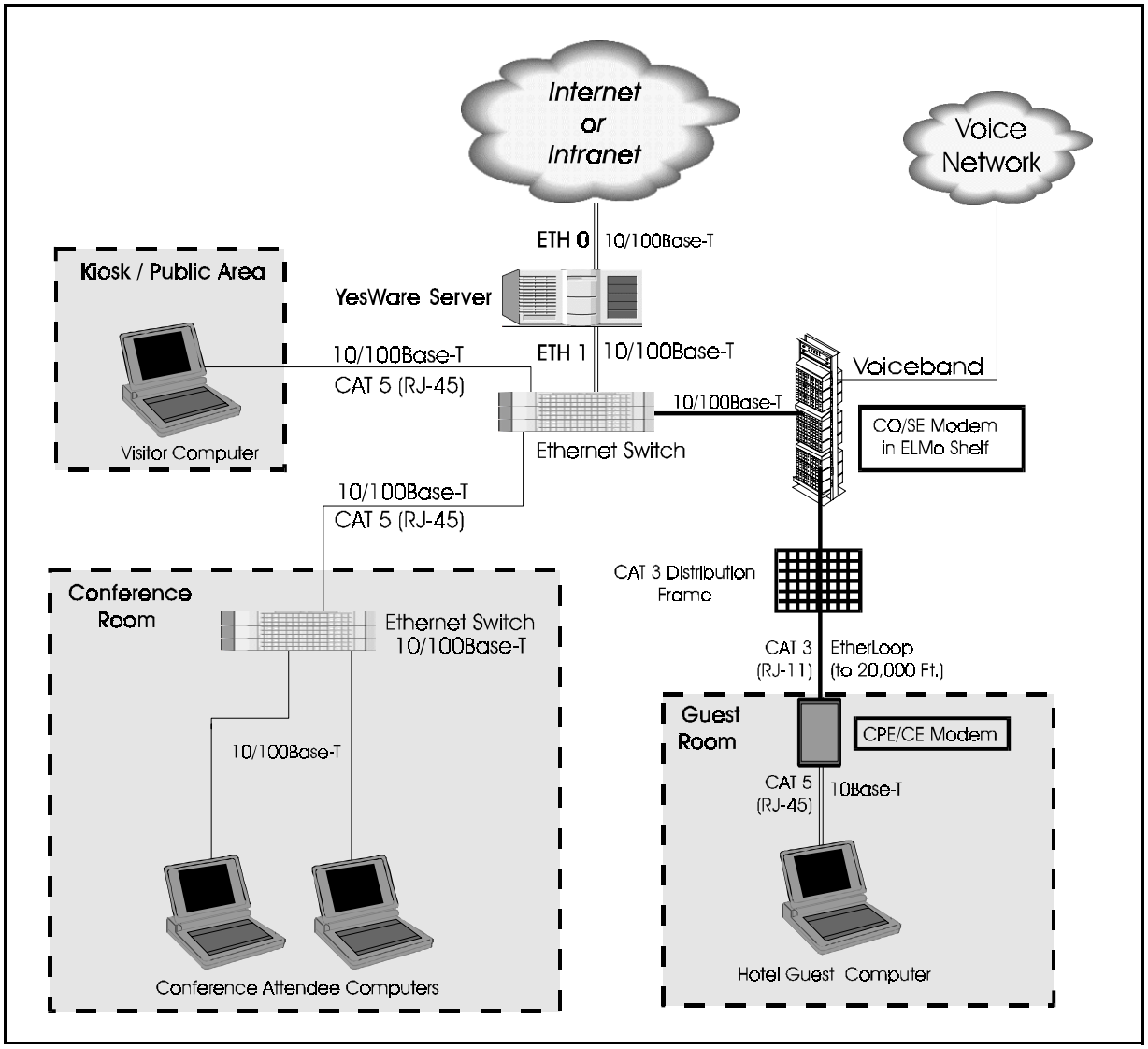
Enhanced Modem Billing cannot serve combined application

Enhanced Modem Billing offers more capabilities than **Modem Connection Billing**, and is the preferred method of EtherLoop modem billing. However, in this release of YesWare, the two **"port-based"** billing methods (**Enhanced Modem Billing** and **Ethernet Port Billing**) cannot be used simultaneously. For this reason, in combined EtherLoop/Ethernet (CAT 3/CAT 5) facilities, **Modem Connection Billing** must be used to serve the CAT 3 facility. See "VBN billing configurations" on page 1-17 for more information.

Combined EtherLoop/Ethernet VBN system architecture

Figure 1-5 on page 1-13 shows the YesWare combined EtherLoop/Ethernet VBN architecture.

Figure 1-5
Combined EtherLoop/Ethernet transport system



Service and billing options

YesWare systems can provide VBN services in the following functional service areas:

- Guest rooms
- Conference rooms
- Public areas

Table 1-3 describes each of these YesWare service options and lists the billing methods available for each YesWare service option. The following sections describe the requirements for the available billing methods.

> ***Note:*** Chapter 8, "YesWare service billing," describes how to implement the YesWare billing methods.

Table 1-3
YesWare service and billing options

YesWare Service Area	Service Description	Available Billing Methods
Guest rooms	Guest room service for hospitality customers in hotel rooms.	• Guest Room Billing • Credit-Card Billing • Authorization Code Billing
Conference rooms	Conference room service for scheduled meetings and conferences.	• Conference Room Billing • Credit-Card Billing • Authorization Code Billing
Public areas	Service for kiosks and other public areas such as hotel lobbies where access to the port is uncontrolled.	• Credit-Card Billing • Authorization Code billing

Guest Room Billing

Guest Room Billing is used only in visitor guest rooms. Using this billing method, Internet access charges appear on the Service Detail Record (SDR) log for the room generated by YesWare. Guest Room Billing can be integrated with the facility Property Management System (PMS) so that YesWare service charges appear as an additional "room charge" on the guest room bill.

Credit-Card Billing

Credit-Card Billing can be used in any YesWare service area. Using this billing method, YesWare Internet access charges appear on the customer's credit card bill. Credit-Card Billing requires that the YesWare service provider have a merchant account with **Authorize.Net**, an Internet credit-card processing company.

Authorization Code billing

Authorization Code billing can be used in any YesWare service area. Using this billing method, customers pay service charges before YesWare Internet access is granted. Authorization Code billing requires that the YesWare service provider generate an "**Auth Code"** using the *Billing Manager* module.

Conference Room Billing

Conference Room Billing is used only in conference or meeting rooms. Using this billing method, YesWare Internet access charges appear on the receipts generated by YesWare's *Conference Scheduler* module. Chapter 11, "YesWare conference room and meeting services" describes the requirements and procedures for using the *Conference Scheduler* module.

VBN billing methods and the Port Use Context

YesWare VBN billing methods are configured using the **"Port Use Context"** provisioned for each VBN port (EtherLoop or Ethernet). Port Use Contexts can be set to **guest**, **credit**, **meeting**, **public**, or **network**.

> ***Note:*** The **network** Port Use Context is not a billable setting.

Figure 1-6 on page 1-16 shows an Ethernet **Port Configuration** dialog with the Port Use Context of "guest." Table 1-4 on page 1-16 lists the Port Use Context requirements for each of the YesWare billing methods.

Figure 1-6
Port Use Context in Ethernet Port Configuration

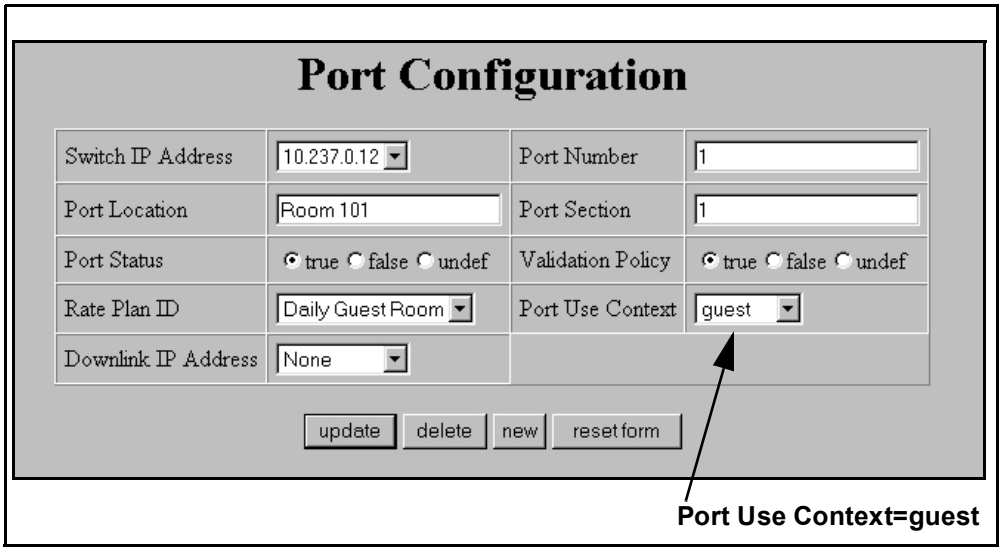


Table 1-4
Visitor-based networking Port Use Context requirements

Billing Method	Port Use Context requirement
Guest Room Billing	guest
Credit Card Billing	credit
Authorization Code Billing	meeting, public, or guest
Conference Room Billing	meeting

VBN billing configurations

YesWare's VBN billing configurations are selected and provisioned based on the VBN transport system(s) and billing method(s) required to support the facility. YesWare billing configurations include the following:

- Enhanced Modem Billing
- Ethernet Port Billing
- Modem Connection Billing

Table 1-5 lists the compatibility of each of these billing configurations with the YesWare billing methods and transport systems. Note that **Modem Connection Billing** is used only with the Guest Room Billing method in Combined EtherLoop/Ethernet transport systems.

The following sections describe the billing characteristics and system requirements of the YesWare billing configurations.

Table 1-5
YesWare billing methods and configuration compatibility

YesWare Billing Method	YesWare VBN Transport System		
	EtherLoop-VBN	**Ethernet-VBN**	**Combined EtherLoop / Ethernet-VBN**
Guest Room Billing	Enhanced Modem Billing	Ethernet Port Billing	Modem Connection Billing
Credit-Card Billing	Enhanced Modem Billing	Ethernet Port Billing	Ethernet Port Billing
Authorization Code Billing	Enhanced Modem Billing	Ethernet Port Billing	Ethernet Port Billing
Conference Room Billing	Enhanced Modem Billing	Ethernet Port Billing	Ethernet Port Billing

Enhanced Modem Billing

The Enhanced Modem Billing configuration serves facilities that have "all-EtherLoop" VBN transport systems. Enhanced Modem Billing uses YesWare billing methods to bill the EtherLoop CO modem port(s) provisioned in the system. CPE modems are not billed, but are treated only as remote connection ports that send traffic from the service area to the CO modem ports.

Configuration options and restrictions

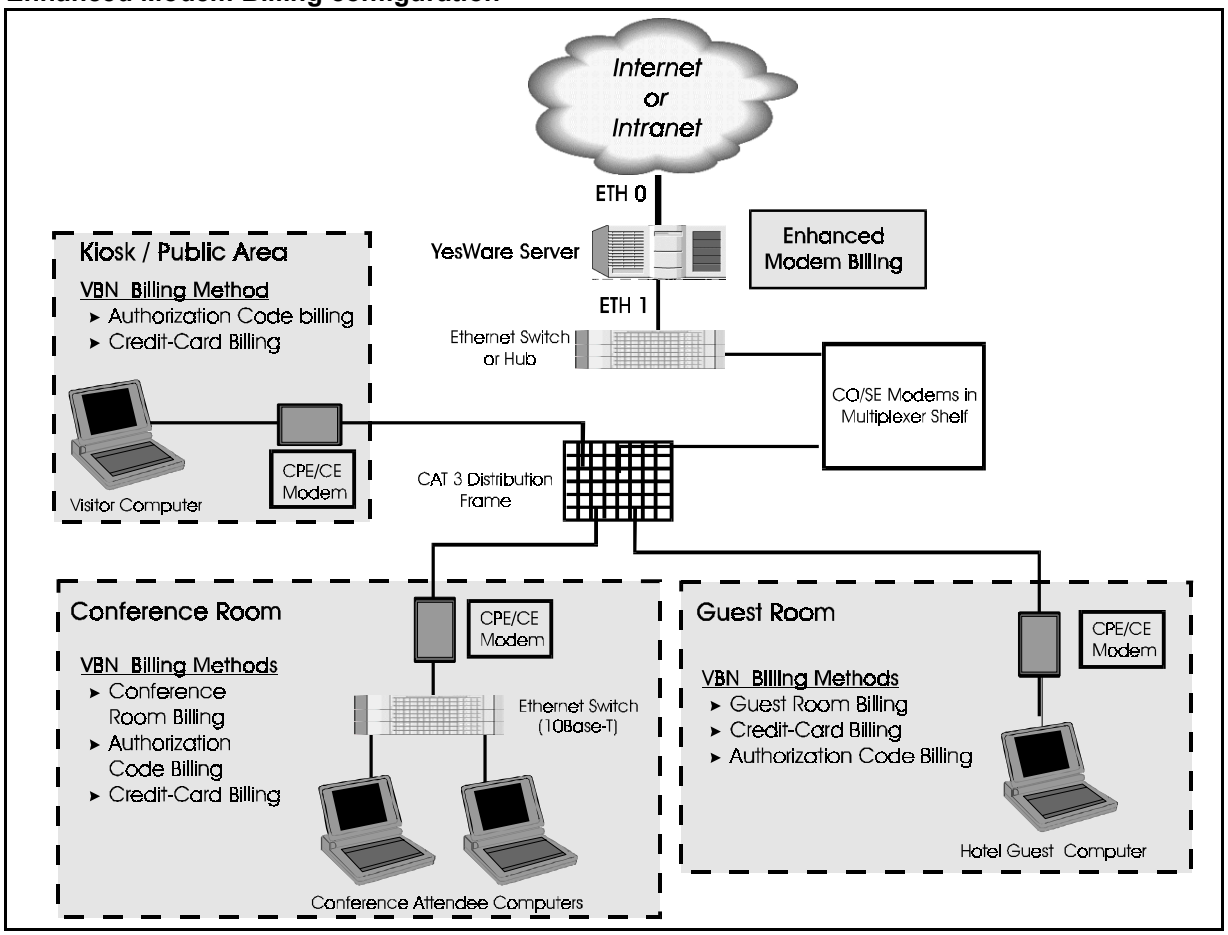
Enhanced Modem Billing configurations support all YesWare service areas and billing methods. However, Enhanced Modem Billing cannot serve facilities that also support an Ethernet Port Billing configuration.

Provisioning Enhanced Modem Billing configurations

By default, Enhanced Modem Billing is not enabled. To implement an Enhanced Modem Billing configuration, the feature must be enabled and provisioned using the functions in the **EtherLoop Port Provisioning** section of *Port Manager*.

The system requirements and procedures to enable and provision Enhanced Modem Billing are described in Chapter 6, "EtherLoop system provisioning." Figure 1-7 illustrates the Enhanced Modem Billing configuration.

Figure 1-7
Enhanced Modem Billing configuration



Ethernet Port Billing

The Ethernet Port Billing configuration serves facilities that have Ethernet-VBN transport systems. Ethernet Port Billing uses YesWare billing functions to provision, manage and bill Ethernet switches on a port-by-port basis.

Configuration options and restrictions

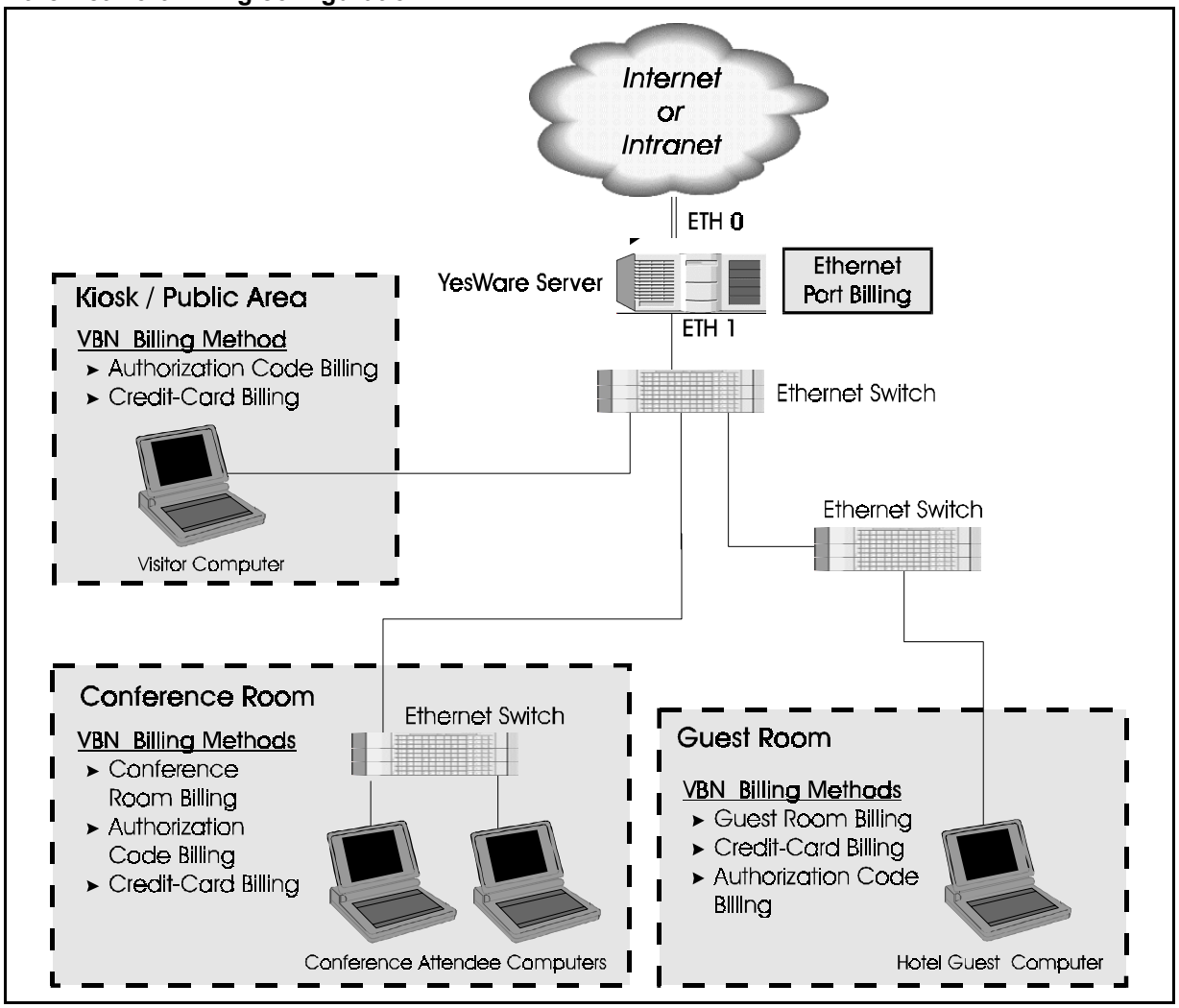
Ethernet Port Billing configurations support all YesWare service areas and billing methods. However, Ethernet Port Billing cannot serve facilities that also support an Enhanced Modem Billing configuration.

Provisioning Ethernet Port Billing configurations

Ethernet Port Billing is provisioned using the functions in the **Ethernet Switch and Port Provisioning** section of *Port Manager*.

The steps to provision Ethernet Port Billing are described in Chapter 7, "Provisioning the Ethernet-VBN switches and ports." Figure 1-8 illustrates the Ethernet Port Billing configuration.

Figure 1-8
Ethernet Port Billing configuration



Modem Connection Billing

The Modem Connection Billing configuration is recommended only in facilities that require combined EtherLoop/Ethernet-VBN transport systems. Modem Connection Billing bills EtherLoop CPE modems based on any connection to the modem. The EtherLoop modem pairs in the system are polled at :17 and :47 of each hour, and the system bills the visitor if any traffic is detected across the modem pair.

Because computers typically send continuous (but low-level) "I-am-here-where-are-you" traffic, Modem Connection Billing bills even visitors who do not use YesWare services or refuse the terms and conditions, but for whatever reason remain connected to the modem.

Configuration options and restrictions

EtherLoop modems using Modem Connection Billing are only recommended in **guest** rooms or other areas where physical access to the port is strictly controlled. Modem Connection Billing does not support any of the YesWare authentication functions, and supports only the Guest Room Billing method.

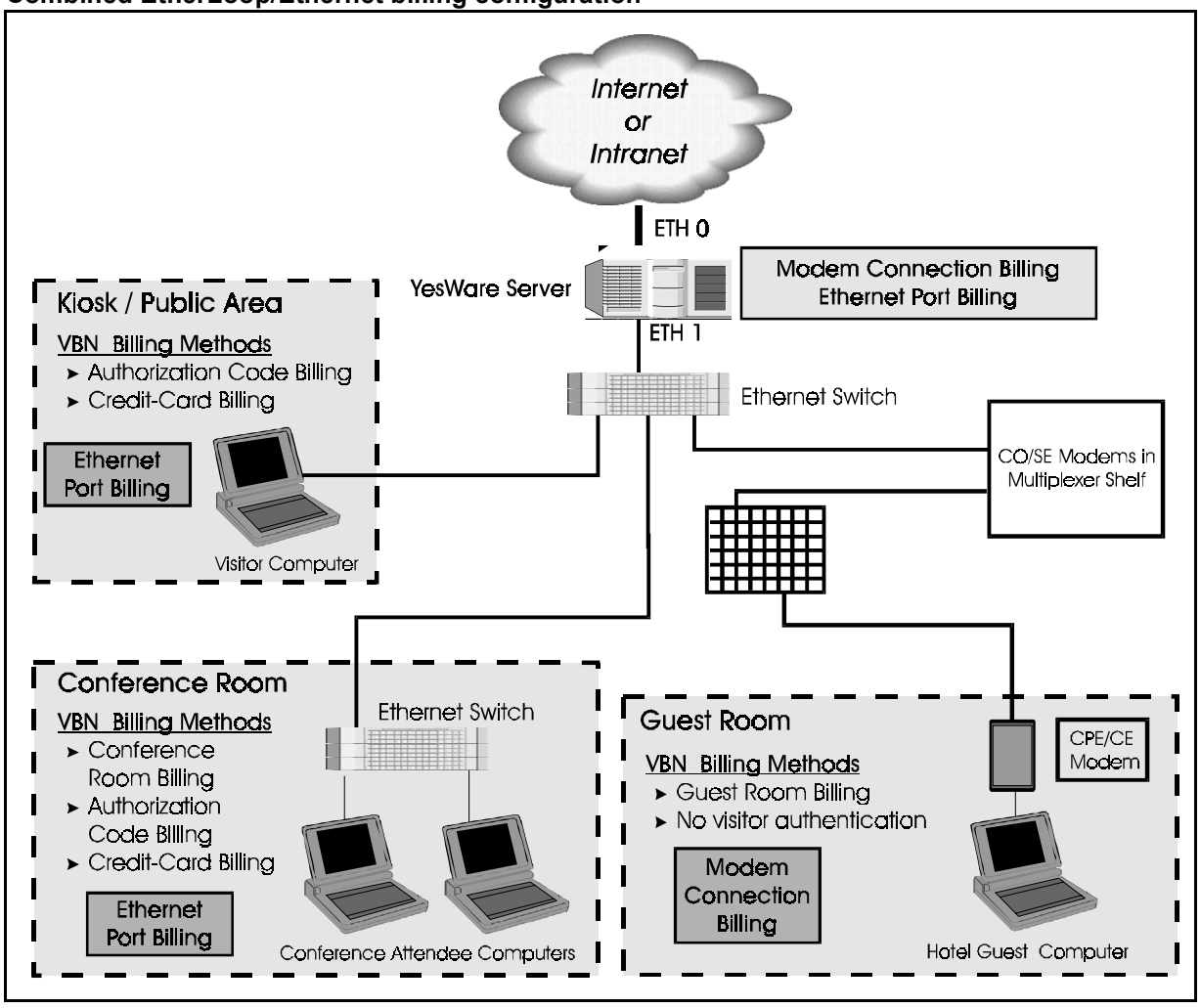
YesWare's visitor authentication functions are based on the Port Use Context of the port. The Port Use Contexts in Modem Connection Billing tell the system only that a CPE modem is a billable (non-network) port, with no information as to what type of billable port.

Provisioning Modem Connection Billing configurations

Modem Connection Billing is configured using the CO and CPE modem configuration functions in the **EtherLoop Modem Provisioning** section of *Port Manager*.

The steps to provision Modem Connection Billing are described in Chapter 6, "EtherLoop system provisioning." Figure 1-9 on page 1-21 illustrates the Modem Connection Billing and the Combined EtherLoop/Ethernet billing configuration.

Figure 1-9
Combined EtherLoop/Ethernet billing configuration



Visitor access controls

The following sections describe YesWare's methods of controlling service access and authentication capabilities for Enhanced Modem Billing and Ethernet Port Billing configurations.

> ***Note:*** Modem Connection Billing configurations do not support the visitor access controls described in this section.

Port Validation

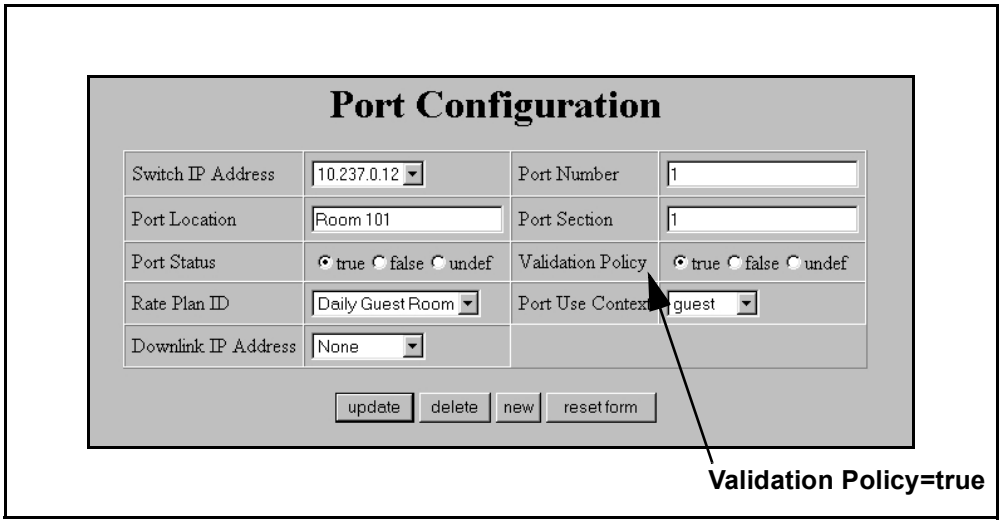
The authentication functions and service access controls used in YesWare's Enhanced Modem Billing and Ethernet Port Billing configurations depend on having the port validation function enabled in the configuration dialog for the Ethernet switch port or EtherLoop modem port. The port's validation status (true/false/undef) tells the system whether or not to present the visitor with the authentication page.

If Port Validation is disabled ("false" or "undef"), visitors receive access without authenticating or accepting any terms and conditions. If port validation is enabled ("true"), visitors are directed to one of the authentication pages and must provide the appropriate information to receive internetwork access.

> ***Note:*** Modem Connection Billing cannot use the authentication and service access controls because Port Validation must be disabled for Modem Connection Billing service.

Figure 1-10 shows an Ethernet **Port Configuration** dialog with the "Validation Policy" status of "true."

Figure 1-10
Validation Policy in Ethernet Port Configuration



Visitor authentication

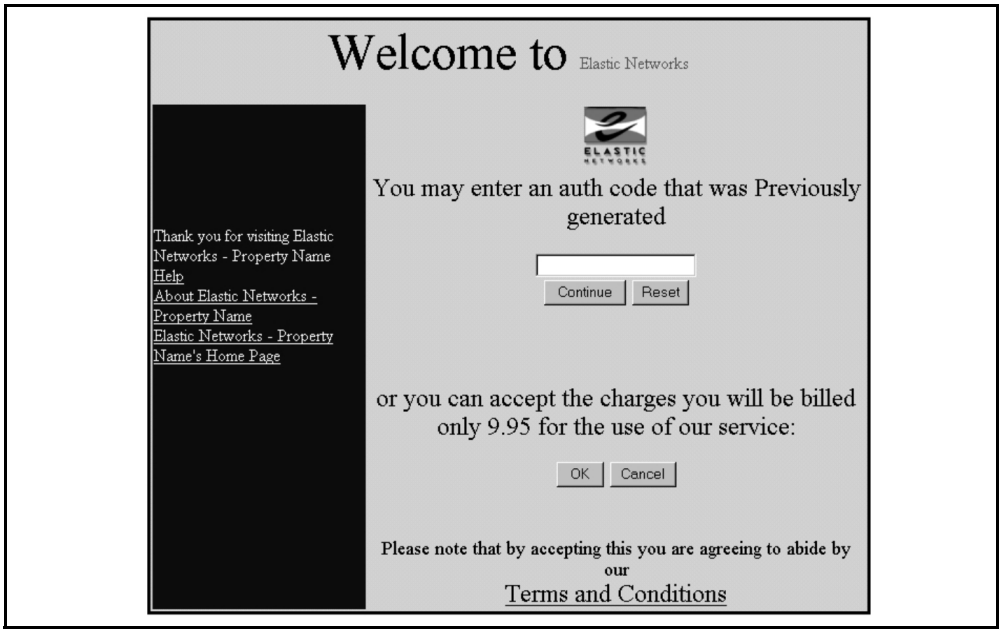
YesWare visitor service access is controlled using "authentication" web pages that require the user to provide the appropriate information before access is granted to the Internet or other YesWare services.

Authentication page usage

YesWare uses several types of authentication pages. The authentication page used by a VBN port is determined by the Port Use Context provisioned for the port (see “VBN billing methods and the Port Use Context” on page 1-15). For example, ports configured with the credit Port Use Context for Credit-Card Billing are presented with a "credit" authentication page (**credit.vbn**), while ports configured to use Auth Code Billing are presented with an Auth Code authentication page (**authcode.vbn**).

Figure 1-11 shows an example of the default hospitality guest room authentication page (**guest.vbn**). Note that "guest.vbn" pages can be configured to use Auth Codes in addition to billing to the visitor room.

Figure 1-11
Default "guest.vbn" authentication page


Welcome to Elastic Networks
Thank you for visiting Elastic Networks - Property Name
Help
About Elastic Networks - Property Name
Elastic Networks - Property Name's Home Page
You may enter an auth code that was Previously generated
Continue
Reset
or you can accept the charges you will be billed only 9.95 for the use of our service:
OK
Cancel
Please note that by accepting this you are agreeing to abide by our
Terms and Conditions

Failed visitor authentication

Visitors who fail to successfully authenticate are directed to "service-refusal" pages that indicate that successful authentication is required for service access.

YesWare enables service providers to customize each authentication page type, including text and graphic replacement. See “VBN page customization” on page 1-24 for more information.

VBN web site customization

YesWare provides several methods for service providers to customize how the VBN web site looks and functions for visitors. The following sections briefly introduce each of these capabilities. Chapter 10, “Customizing the VBN web site,” describes the operation and use of these YesWare capabilities.

VBN page customization

The "look-and-feel" of VBN authentication (and service-refusal) pages determines how the initial connection looks to the visitor. All logos, colors, and text (in non-functional fields) on these pages can be replaced with information specific to the service-provider and/or host site. Authentication pages are modified by retrieving the page from the YWS, and editing the page using an HTML text editor.

Virtual Concierge

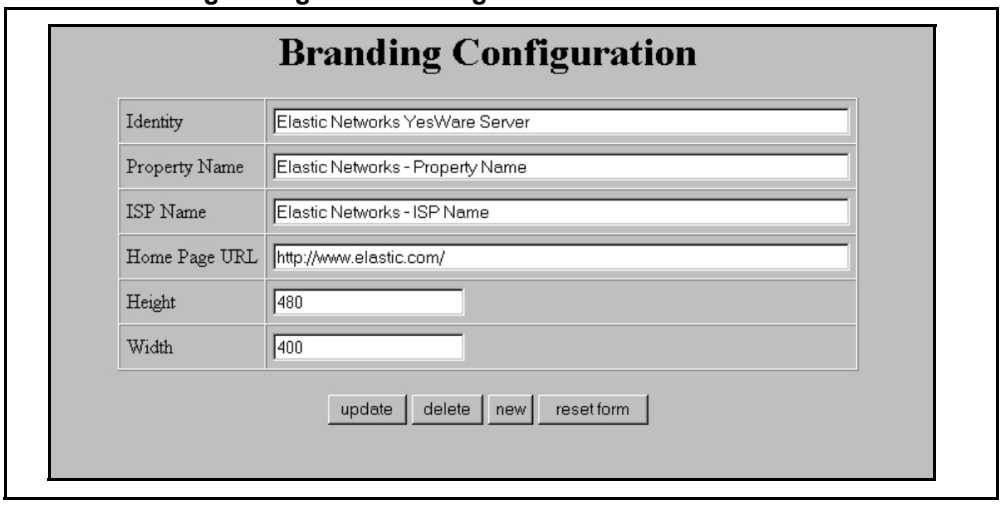
YesWare’s **Virtual Concierge** feature enables service providers to create a host-specific site linked to the YWS and filled with free content and advertising. The VBN visitor can browse the Virtual Concierge for free to obtain information about local restaurants and host amenities, but will have to accept the payment terms and conditions to receive Internet access. The Virtual Concierge function is located in the *InterProxy* module.

Service-provider branding

YesWare enables service providers to select the name of the service on the web page that is presented when the visitor connects to the VBN. Service-provider branding is provided using the Add/Search Branding Setup function, which is located in the **System Setup** section of the *Port Manager* module.

Figure 1-12 shows the default **Branding Configuration** dialog. The "Home Page URL" entered in this dialog is used as the "home/splash" page presented to users after authentication. See “Service-provider home/splash page configuration” on page 1-25 for more information on VBN home page usage.

Figure 1-12
Default Branding Configuration dialog



Service-provider home/splash page configuration

YesWare allows the administrator to designate the home/splash page on the Internet the visitor will see after connecting and authenticating on the VBN. The URL for the home/splash page is entered in the **Branding Configuration** dialog as shown in Figure 1-12 on page 1-24.

Home/splash page settings

YesWare offers the following home/splash page settings to the service-provider:

- **Splash in existing window:** The home/splash page appears in the same browser window that the visitor used to authenticate. In this configuration, the home/splash page of the service-provider serves as an Internet "portal," and will replace any home page configured on the visitor's computer.
- **Splash in new window:** In this configuration, the home/splash page appears in a separate browser window after the visitor authenticates. Visitors see their own home page after the authentication page, while the service-provider page appears elswhere on the desktop where it can be viewed or closed by the user.
- **Splash disabled:** In this configuration, no splash page appears. Visitors see their own home page after the authentication page.

Figure 1-13 shows the Elastic Networks home page that is used as the default VBN home/splash page. See Chapter 10, "Customizing the VBN web site" for instructions on how to configure home/splash pages.

Figure 1-13
Elastic Networks home/splash page default

System management and maintenance capabilities

YesWare has a variety of system management and maintenance capabilities. Table 1-6 lists some of the YesWare modules and functions related to system management and maintenance.

Table 1-6
YesWare system management and maintenance capabilities

YesWare module or function	Description
YesWare system security	YesWare has the following capabilities related to system security: • MAC address-based privacy filtering to prevent unauthorized access to visitor computers connected to EtherLoop modems • restricting external network access to the YWS web interface • secure password setting
EtherCraft module	EtherLoop modem diagnostics and performance monitoring tool for monitoring modem status and performance. EtherCraft can examine all modems or selected modems that have been provisioned using *Port Manager*.
SNMP	YesWare supports Simple Network Management Protocol (SNMP) through a third-party SNMP manager to remotely monitor and configure YesWare components. SNMP functions include the capability to generate an event notification when the YWS link to the facility PMS goes down.
Download Utilities module	The Download Utilities module is used to upgrade EtherLoop modem firmware.
Routine system maintenance and administration	YesWare has the following capabilities related to routine system maintenance and administration: • Creating and deleting users • System log generation and viewing • Configuring xNTP (network time protocol) • Installing and upgrading YesWare modules • Backing up and restoring the system database • Backing up the InterProxy configuration • Shutting down and restarting the YWS via web

Installing a YesWare VBN system

The process of installing a YesWare VBN system, in broad terms, includes the following:

5 Install the TCP/IP Ethernet local host LAN/WAN network to support the YesWare Server connection (if none existing).

6 Install the YesWare VBN infrastructure (EtherLoop or Ethernet).

7 Configure the YWS on an existing local host LAN/WAN.

8 Provision the VBN infrastructure to support YesWare services.

9 Provision site-specific service billing requirements

10 Customize the host site and provision visitor services

This manual covers steps **7** through **10** of the YesWare system installation process.

Organization of this manual

This document provides procedures for setting up the YesWare Server on the local host network and for provisioning the YesWare system, as well as for conducting on-going YesWare system operations and maintenance. In general, the information is presented in the order in which you will need to use it. The first part of this manual contains the instructions for using the YesWare operating system and modules, and for the initial setup of the YesWare system. The middle part of the document contains the procedures for provisioning site-specific settings and billing information. The later chapters of the document cover the YesWare system operations, administration and maintenance tasks.

YesWare Server operating system and software modules

This introduces the purpose and function of the YWS operating system and software modules.

> ***YesWare terminology / NSS=YesWare or YWS***
> NSS (Network Services System) was the original name for the suite of software modules now known as YesWare, and also for the hardware platform containing the modules now known as the YesWare Server (YWS). This "legacy" name (NSS) still appears in several places throughout the YesWare modules. Where "NSS" appears in the modules, assume it to mean either YesWare or YWS, whichever seems appropriate based on the module context.

Chapter topic list

This chapter includes the following topics.

Topic	See
YesWare 2.3 software functions and versions	page 2-2
YWS operating system	page 2-3
Using YesWare web-based modules	page 2-4
YesWare web-based modules	page 2-8

YesWare 2.3 software functions and versions

Table 2-1 lists the YesWare operating system and modules and the version information for the YesWare 2.3 release.

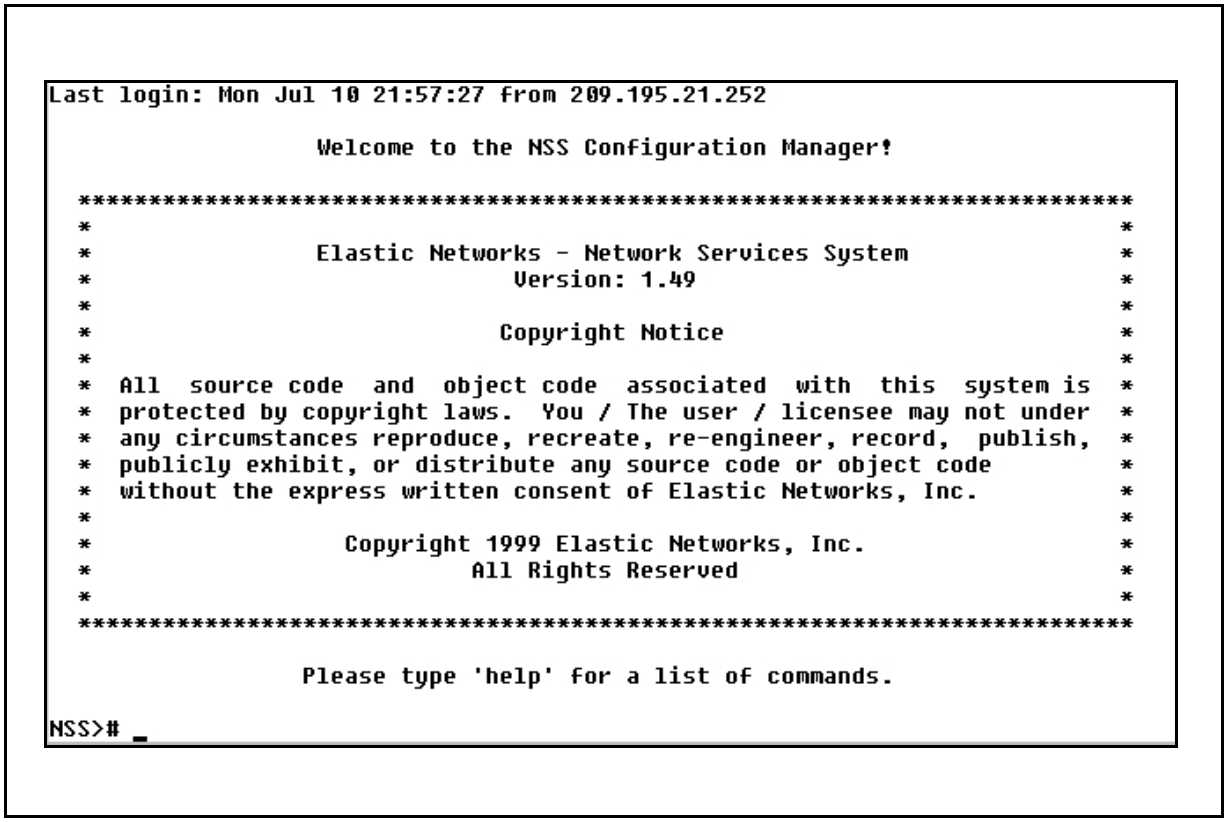
Table 2-1
YesWare module functions and versions

Module name	Function/Description	YesWare 2.3 Version
Elastic Operating Network (EON)	Operating system for the YesWare Server (YWS). The EON is a command-based console interface used to configure the YWS on the host network and for low-level system diagnostic tests..	1.49
NSS Base Software	Web-page structure that supports the YesWare modules.	1.49
InterProxy	Internet protocol (IP) translator and YesWare client router. The InterProxy module allows YesWare clients with random or non-local IP addresses to access LAN and/or WAN services.	2.39
NSS Maintenance	System maintenance functions for YesWare modules and the YWS. NSS Maintenance functions include password setting, YesWare system database verification, system log viewing, YesWare module upgrading, and other functions.	1.49
Conference Scheduler	Allows YesWare service-providers to schedule and bill conference rooms by issuing IP addresses that expire at a provisioned time.	1.0
Port Manager	Port provisioning interface for YesWare system. YesWare ports can be either Ethernet switch ports or EtherLoop modem ports.	2.14
Billing Manager	Provisioning interface for YesWare system billing information. Functions include setting billing rates and billing system types, generating end-user authorization codes, and other functions.	2.12
SNMP Proxy Agent	SNMP proxy agent for EtherLoop modems and Ethernet switches in the YesWare system. Services SNMP queries to modems from any external SNMP manager. The YesWare SNMP Proxy Agent supports SNMPv1 and SNMPv2c protocols.	2.11
Modex Daemon	Manages internal communications and controls for EtherLoop modems in response to SNMP requests from the SNMP Proxy Agent and control processes from the Downloader Utility.	1.17
EtherCraft	Craft interface to EtherLoop modems. The EtherCraft Utility can check modem status, check and set modem speeds and training levels, reset modems, and view modem database information	2.26
Print Services	Allows YesWare visitors to "click-and-print" to a networked printer.	0.04
Download Utilities	EtherLoop modem firmware upgrade utility.	2.07

YWS operating system

The YWS operating system is called the Elastic Operating Network (EON). Figure 2-1 shows the"Welcome" screen and prompt you should see after entering the EON login and password. At this point you can enter the commands listed in Table 3-2 on page 3-8.

Figure 2-1
EON Welcome screen and command prompt


Last login: Mon Jul 10 21:57:27 from 209.195.21.252
Welcome to the NSS Configuration Manager!
Elastic Networks - Network Services System
Version: 1.49
Copyright Notice
All source code and object code associated with this system is protected by copyright laws. You / The user / licensee may not under any circumstances reproduce, recreate, re-engineer, record, publish, publicly exhibit, or distribute any source code or object code without the express written consent of Elastic Networks, Inc.
Copyright 1999 Elastic Networks, Inc.
All Rights Reserved
Please type 'help' for a list of commands.
NSS>#

EON commands

Chapter 3, “YesWare Server host network configuration” describes the procedures for using the EON commands to configure the YWS on the host network. Table 3-2 on page 3-8 lists the commands supported by the EON.

Using YesWare web-based modules

All YesWare modules are web-based, and are launched by browsing to the IP address configured for the YesWare Server **ETH 0** network interface.

Connecting to the ETH 0 interface

To access the YWS **ETH 0** interface, you must have access to the network where the YWS resides. This can be done with a PC connected over a network, internetwork, simple passive hub, or through a direct connection to the YWS **ETH 0** interface.

> ***Direct PC connection to ETH 0***
> To connect a PC directly to the **ETH 0** interface, a Category 5 Ethernet **crossover** cable must be used and the PC must be configured as a TCP/IP node on the same LAN and subnet as the **ETH 0** interface.

Browsing to the ETH 0 URL

Before using the YesWare web-based modules described in this manual, you must know the IP address configured for the **ETH 0** interface.

> ***YWS default-configured ETH 0 IP address***
> To access the YWS, use the IP address configured using the console interface (see Chapter 3, "YesWare Server host network configuration") or the default-configured **ETH 0** address.
>
> The YWS is configured before shipping with the following **ETH 0** IP address:
>
> **192.168.1.2**

Accessing the YWS main web page is done by specifying the **ETH 0** Universal Resource Locator (URL), using a PC with a web browser (Internet Explorer or Netscape Navigator). The URL must include the **ETH 0** IP address followed by the "nss/" directory, as in the following example (for a YWS at **ETH 0** IP address 10.255.254.2):

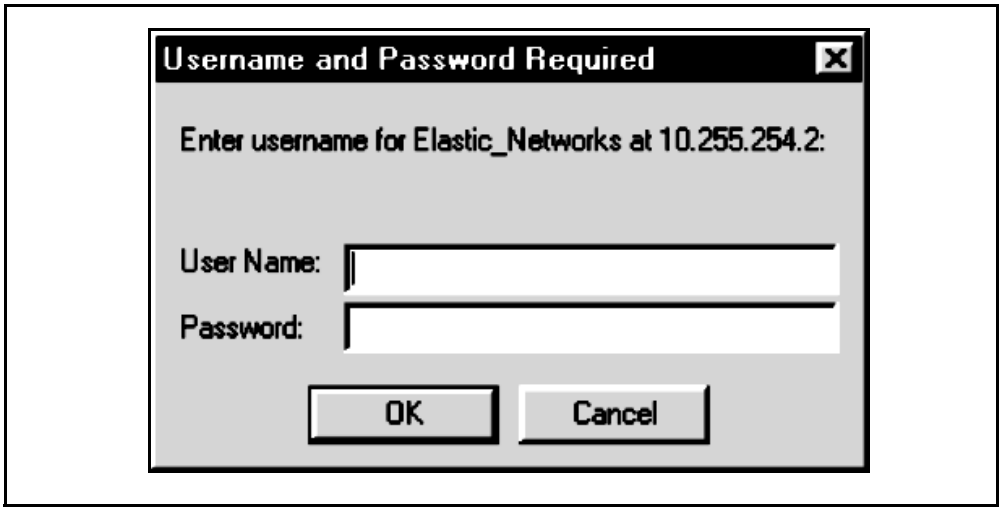
10.255.254.2/nss/

If the "/nss/" is not included in the **ETH 0** URL, the system will return a denial of access. If the **ETH 0** URL is entered correctly, the YesWare login dialog appears as shown in Figure 2-2 on page 2-5:

Finding an unknown ETH 0 IP address configuration

If you do not know the IP configuration set for **ETH 0**, login to the EON console interface and use the **port** command to display the **ETH 0** settings (**ETH 1** values are also displayed). See Table 3-2, "EON commands" on page 3-8 for a description of the EON **port** command.

Figure 2-2
Login dialog



YWS web interface login user name and password default

The YWS default-configured user name/password login for the web-based interface is **manager**/**manager**.

YesWare main web page

After successfully logging in, the YesWare main page should appear as shown in Figure 2-3 on page 2-6.

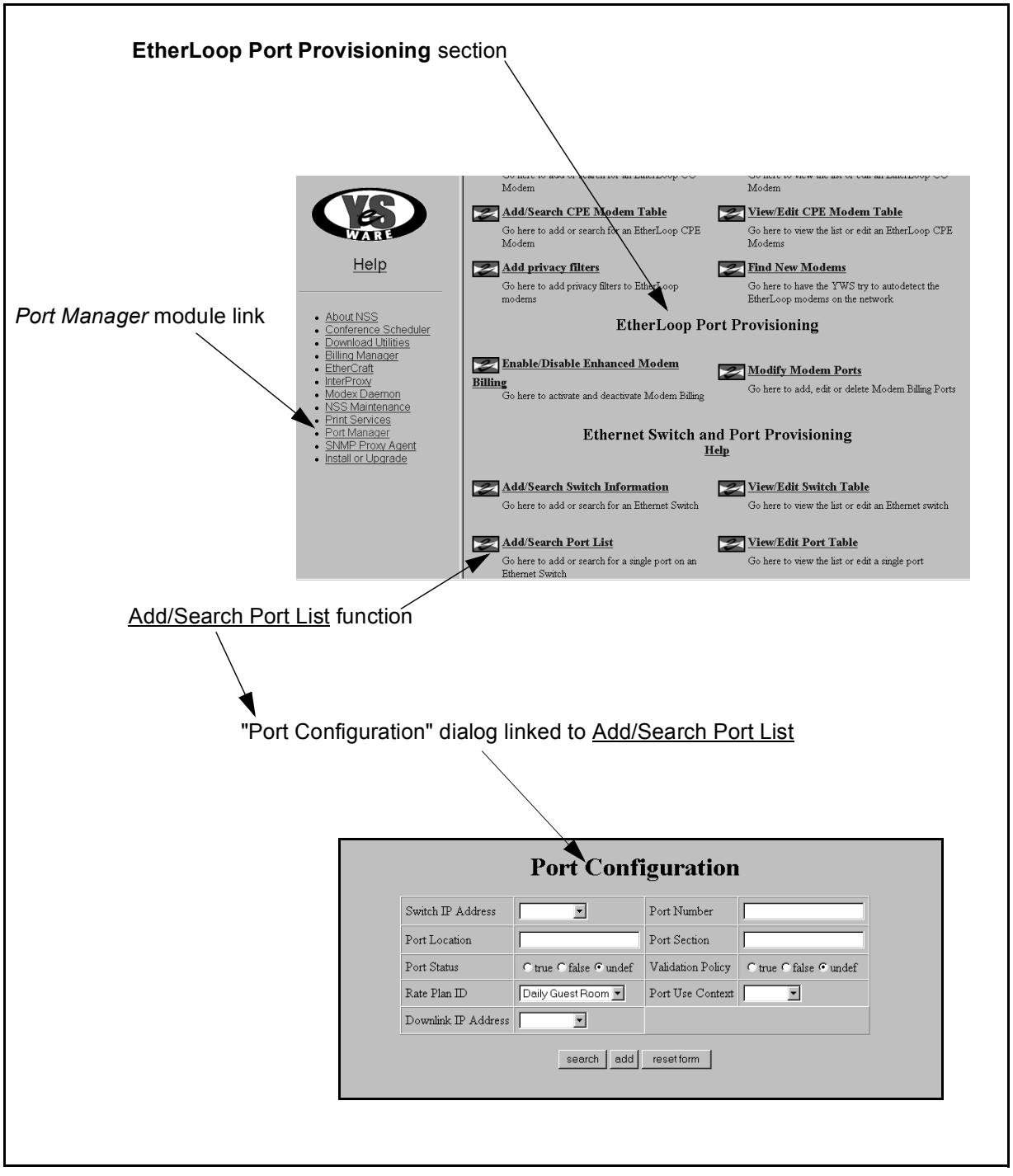
Figure 2-3
YesWare main page

YesWare modules/sections/functions

YesWare modules contain "functions" that execute YesWare operations. These functions are accessed through HTML links and control buttons on the module pages. In the *Port Manager* and *NSS Maintenance* modules, the module pages are further divided into "sections."

In this document, YesWare module links are *italicized*, module sections are **bolded**, and module function links and buttons are underlined. Function dialogs launched by clicking on the function link or button are in "quotation marks." Figure 2-4 on page 2-7 shows the *Port Manager* module as an example.

Figure 2-4
Port Manager module sections and functions


EtherLoop Port Provisioning section
Port Manager module link
Add/Search Port List function
"Port Configuration" dialog linked to Add/Search Port List
Help
About NSS
Conference Scheduler
Download Utilities
Billing Manager
EtherCraft
InterProxy
Modex Daemon
NSS Maintenance
Print Services
Port Manager
SNMP Proxy Agent
Install or Upgrade
Add/Search CPE Modem Table
Go here to add or search for an EtherLoop CPE Modem
View/Edit CPE Modem Table
Go here to view the list or edit an EtherLoop CPE Modems
Add privacy filters
Go here to add privacy filters to EtherLoop modems
Find New Modems
Go here to have the YWS try to autodetect the EtherLoop modems on the network
EtherLoop Port Provisioning
Enable/Disable Enhanced Modem Billing
Go here to activate and deactivate Modem Billing
Modify Modem Ports
Go here to add, edit or delete Modem Billing Ports
Ethernet Switch and Port Provisioning
Help
Add/Search Switch Information
Go here to add or search for an Ethernet Switch
View/Edit Switch Table
Go here to view the list or edit an Ethernet switch
Add/Search Port List
Go here to add or search for a single port on an Ethernet Switch
View/Edit Port Table
Go here to view the list or edit a single port
Port Configuration
Switch IP Address
Port Number
Port Location
Port Section
Port Status
true false undef
Validation Policy
true false undef
Rate Plan ID
Daily Guest Room
Port Use Context
Downlink IP Address
search
add
reset form

YesWare web-based modules

YesWare web-based modules are used to provision and manage the YesWare system. Figure 2-5 shows the module links on the YesWare main web page for this software release. The remainder of this chapter describes the purpose and function of each of these modules.

> ***On-line Help is available!***
> Comprehensive on-line Help is available for all YesWare modules by clicking the *Help* module link in the YesWare main menu.

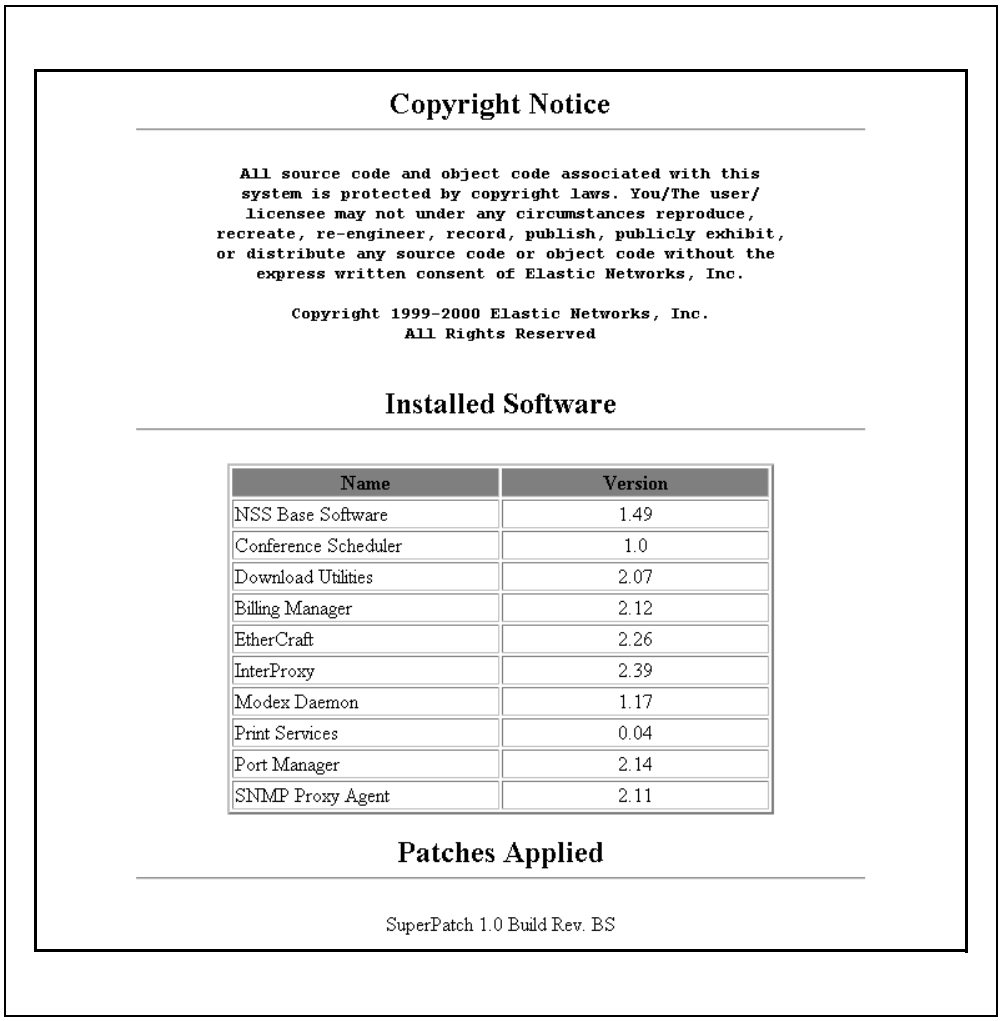
Figure 2-5
YesWare module links

About NSS

The *About NSS* module contains version and copyright information for the YesWare software release.

Figure 2-6 shows the *About NSS* module page.

Figure 2-6
***About NSS* module page**

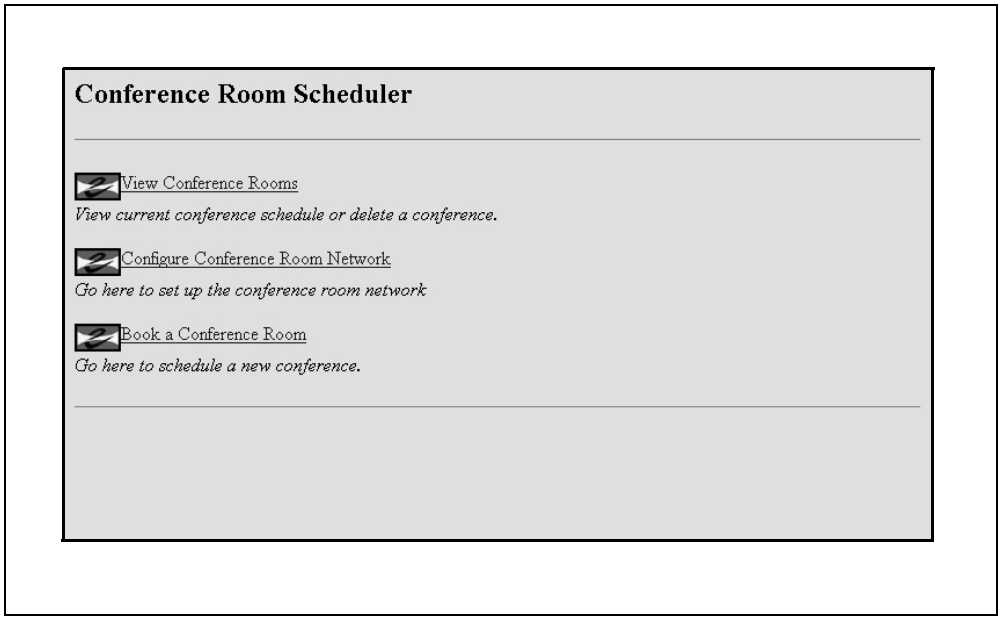


Conference Scheduler

The *Conference Scheduler* module is used to schedule and bill YesWare service for Ethernet and/or EtherLoop (ELMo 8 only) equipment located in facility meeting rooms.

Figure 2-7 shows the *Conference Scheduler* page. **Chapter 11** describes the operation and use of the *Conference Scheduler* module.

Figure 2-7
***Conference Scheduler* module page**

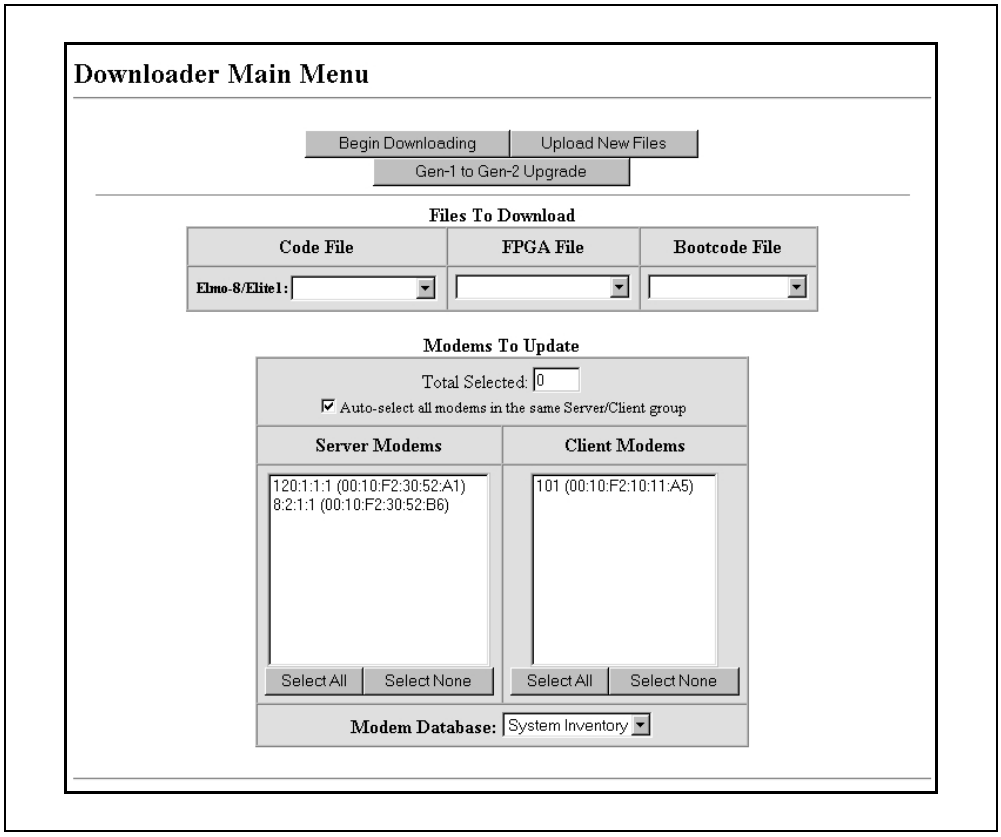

Conference Room Scheduler
View Conference Rooms
View current conference schedule or delete a conference.
Configure Conference Room Network
Go here to set up the conference room network
Book a Conference Room
Go here to schedule a new conference.

Download Utilities

The *Download Utilities* module is used to upgrade the firmware in the EtherLoop modems from either a diskette in the YWS floppy drive or a file located on the workstation/network.

Figure 2-8 shows the *Download Utilities* page. **Chapter 15** describes the operation and use of the *Download Utilities* module.

Figure 2-8
***Download Utilities* module page**

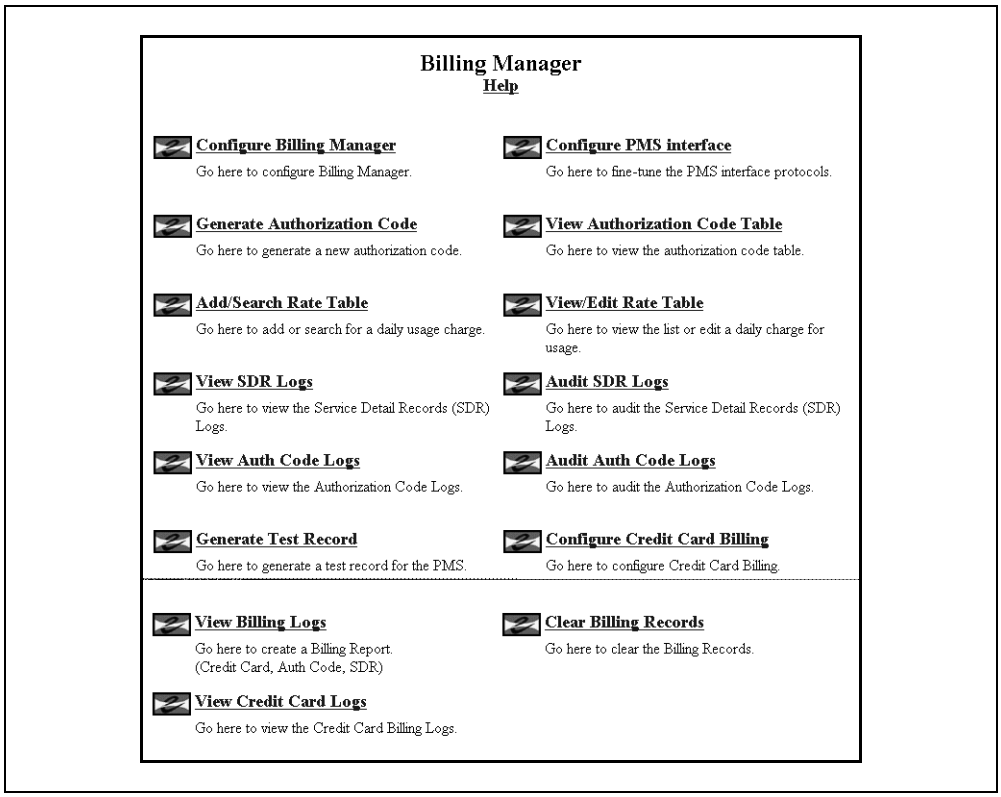


Billing Manager

The *Billing Manager* module is used to configure and maintain information used for billing of YesWare end-users, such as the billing system type, rate table, and user authorization codes. YesWare's *Billing Manager* allows relatively easy integration with a hospitality Property Management System (PMS) and/or credit-card billing service, as well as generating, viewing and auditing the YWS Service Detail Record (SDR) logs.

Figure 2-9 shows the *Billing Manager* page. **Chapter 8** describes the operation and use of the *Billing Manager* module.

Figure 2-9
***Billing Manager* module page**

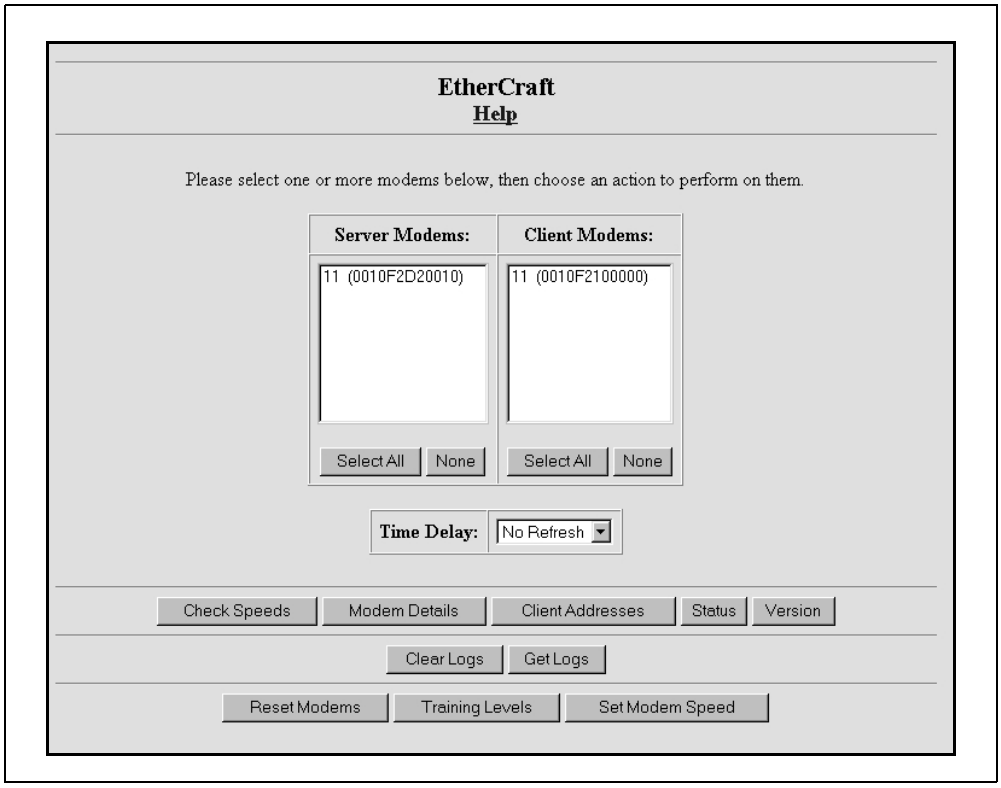

Billing Manager
Help
Configure Billing Manager
Go here to configure Billing Manager.
Configure PMS interface
Go here to fine-tune the PMS interface protocols.
Generate Authorization Code
Go here to generate a new authorization code.
View Authorization Code Table
Go here to view the authorization code table.
Add/Search Rate Table
Go here to add or search for a daily usage charge.
View/Edit Rate Table
Go here to view the list or edit a daily charge for usage.
View SDR Logs
Go here to view the Service Detail Records (SDR) Logs.
Audit SDR Logs
Go here to audit the Service Detail Records (SDR) Logs.
View Auth Code Logs
Go here to view the Authorization Code Logs.
Audit Auth Code Logs
Go here to audit the Authorization Code Logs.
Generate Test Record
Go here to generate a test record for the PMS.
Configure Credit Card Billing
Go here to configure Credit Card Billing.
View Billing Logs
Go here to create a Billing Report. (Credit Card, Auth Code, SDR)
Clear Billing Records
Go here to clear the Billing Records.
View Credit Card Logs
Go here to view the Credit Card Billing Logs.

EtherCraft

The *EtherCraft* module is used to control and monitor EtherLoop modems from a remote PC/workstation using a Web browser. *EtherCraft* can check and set modem speeds, set modem training levels, reset modems, get and clear logs, and display modem addresses, availability status, and firmware versions.

Figure 2-10 shows the *EtherCraft* page. **Chapter 14** describes the operation and use of the *EtherCraft* module.

Figure 2-10
***EtherCraft* module page**

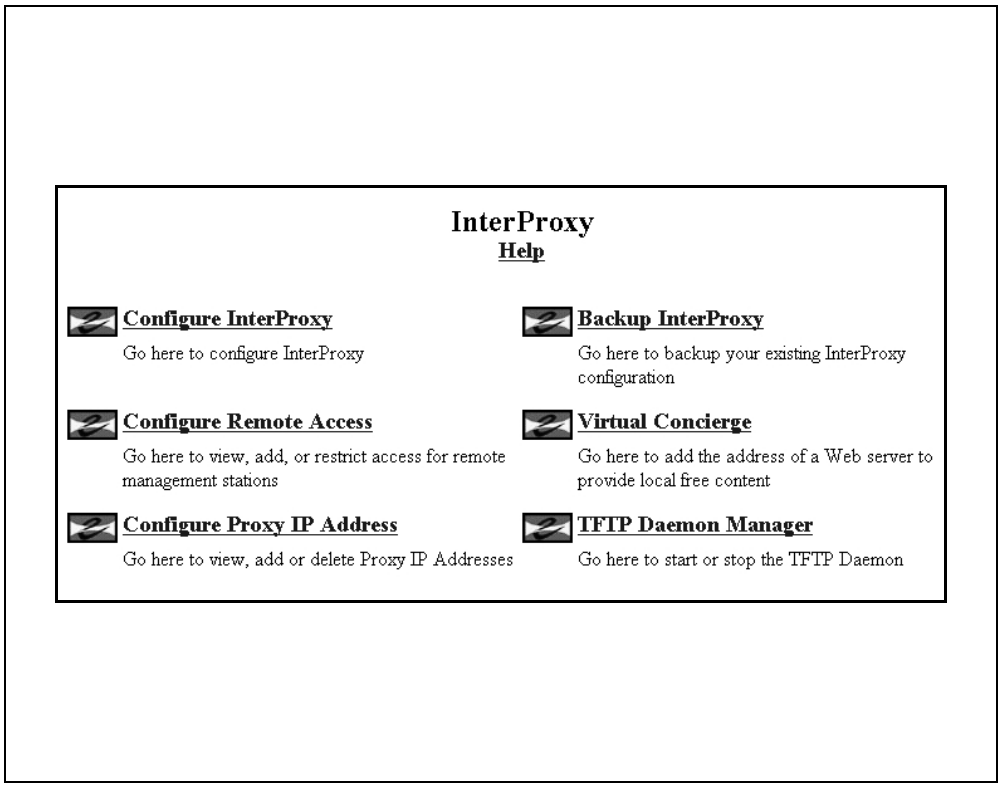


InterProxy

As mentioned in Chapter 1, the *InterProxy* module is used to route TCP/IP-Ethernet traffic from YesWare end-users to an external data network such as the Internet or corporate intranet, *regardless of end-user IP configurations*. The InterProxy functionality is most appropriate for networks that support "guest" users such as a Visitor-Based Network (VBN).

Figure 2-11 shows the *InterProxy* page. **Chapter 4** describes the operation and use of the *InterProxy* module, especially how to use the Configure InterProxy function to set up an InterProxy-VBN system.

Figure 2-11
***InterProxy* module page**


InterProxy
Help
Configure InterProxy
Go here to configure InterProxy
Backup InterProxy
Go here to backup your existing InterProxy configuration
Configure Remote Access
Go here to view, add, or restrict access for remote management stations
Virtual Concierge
Go here to add the address of a Web server to provide local free content
Configure Proxy IP Address
Go here to view, add or delete Proxy IP Addresses
TFTP Daemon Manager
Go here to start or stop the TFTP Daemon

Modex Daemon

The *Modex Daemon* is the YWS module that controls all direct communication between the EtherLoop modems and the YWS. It is started at bootup and runs continuously. The daemon executes functions on the EtherLoop modems such as the following:

- SNMP get/set commands
- *EtherCraft* status polling and controls
- EtherLoop modem firmware downloads

The *Modex Daemon* module contains a button that allows you to start and stop the daemon without having to re-start the YWS.

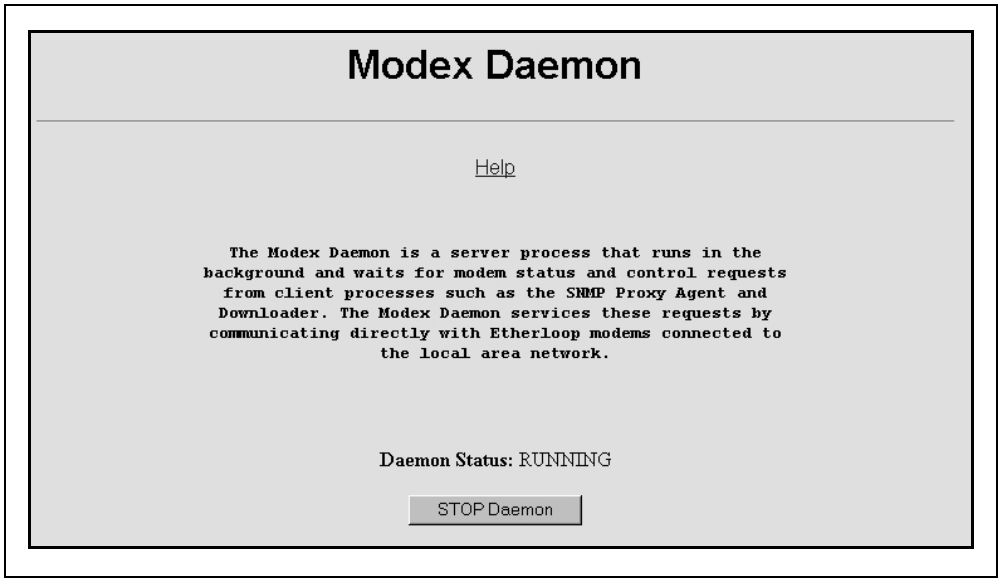
Modex Daemon and ETH 0 / ETH 1

The *Modex Daemon* can process commands and requests over the **ETH 0** or the **ETH 1** interface. In an InterProxy-VBN system, the Modex daemon directs the processes over the **ETH 1** interface. In a "one-armed" EtherLoop OAM&P system, the Modex daemon directs the processes over the **ETH 0** interface.

The Set ModeX daemon information function in the **System Maintenance** section of the *NSS Maintenance* module contains a pull-down menu to change the daemon setting to either **ETH 0** or **ETH 1**. See “NSS Maintenance” on page 2-16.

Figure 2-12 shows the *Modex Daemon* page.

Figure 2-12
***Modex Daemon* module page**

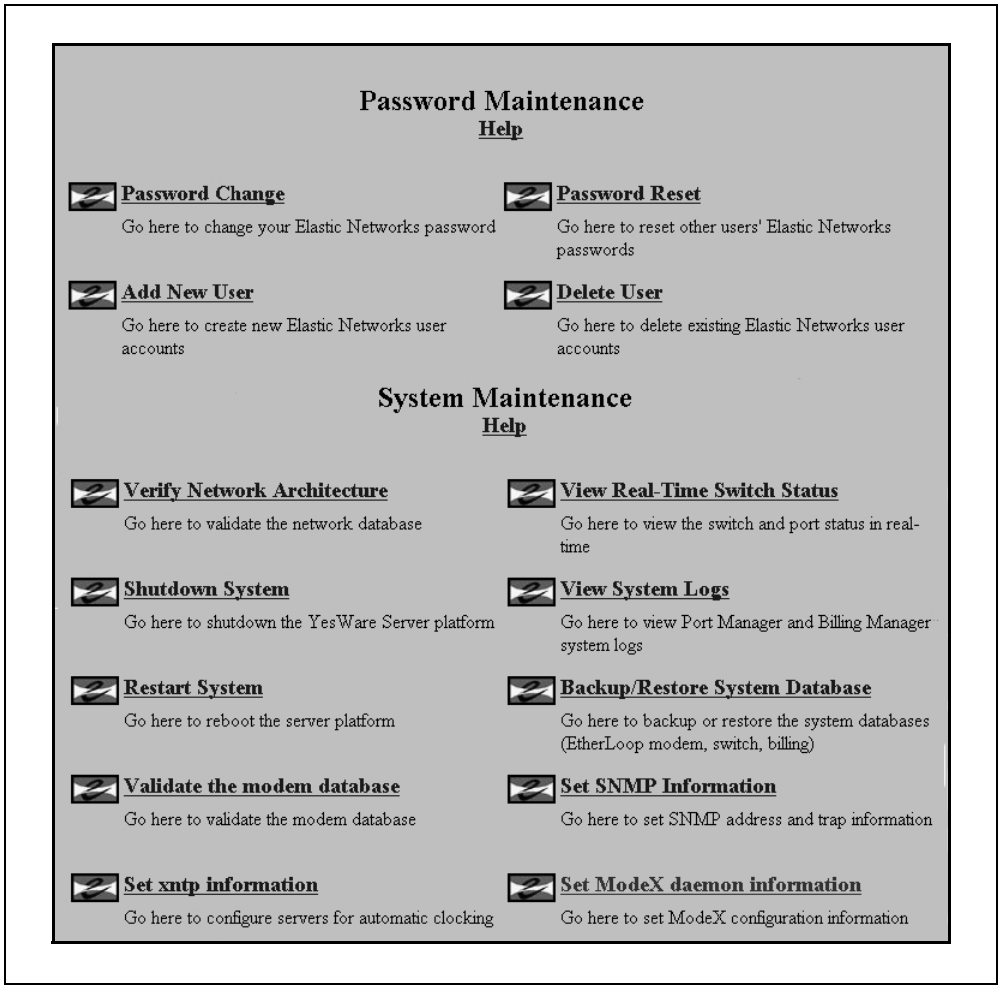

Modex Daemon
Help
The Modex Daemon is a server process that runs in the background and waits for modem status and control requests from client processes such as the SNMP Proxy Agent and Downloader. The Modex Daemon services these requests by communicating directly with Etherloop modems connected to the local area network.
Daemon Status: RUNNING
STOP Daemon

NSS Maintenance

The *NSS Maintenance* module is divided into **Password Maintenance** and **System Maintenance** sections. **Password Maintenance** functions allow you to maintain passwords and user accounts. **System Maintenance** functions include verifying the system architecture, validating the modem database, setting up the SNMP and Modex Daemon configurations, and other system functions.

Figure 2-13 shows the *NSS Maintenance* page.

Figure 2-13
***NSS Maintenance* module page**

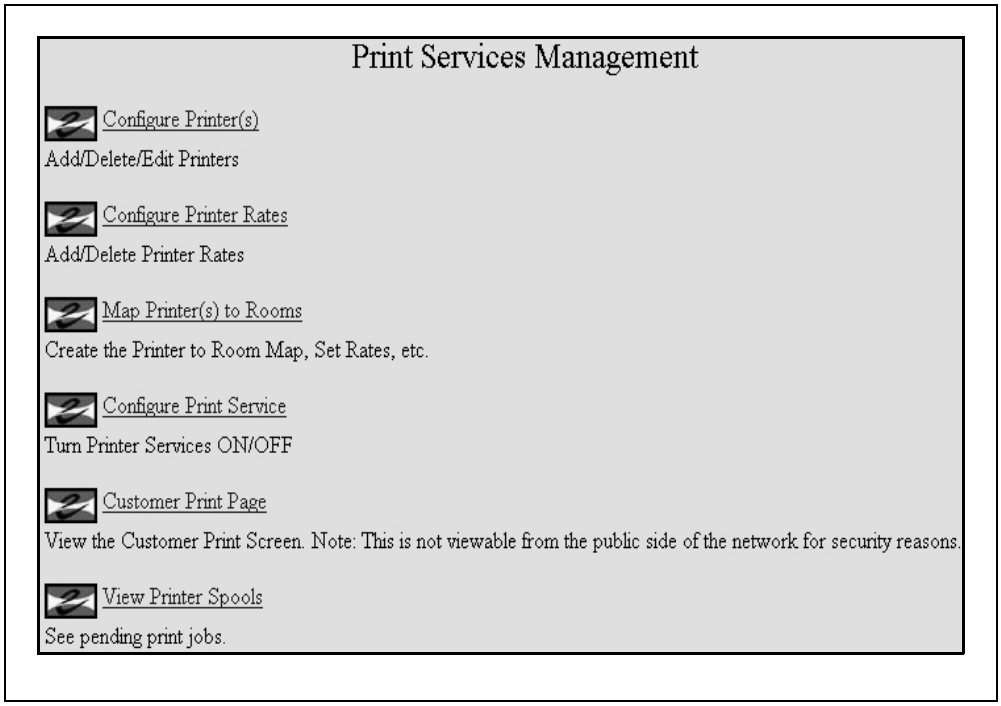

Password Maintenance
Help
Password Change
Go here to change your Elastic Networks password
Password Reset
Go here to reset other users' Elastic Networks passwords
Add New User
Go here to create new Elastic Networks user accounts
Delete User
Go here to delete existing Elastic Networks user accounts
System Maintenance
Help
Verify Network Architecture
Go here to validate the network database
View Real-Time Switch Status
Go here to view the switch and port status in real-time
Shutdown System
Go here to shutdown the YesWare Server platform
View System Logs
Go here to view Port Manager and Billing Manager system logs
Restart System
Go here to reboot the server platform
Backup/Restore System Database
Go here to backup or restore the system databases (EtherLoop modem, switch, billing)
Validate the modem database
Go here to validate the modem database
Set SNMP Information
Go here to set SNMP address and trap information
Set xntp information
Go here to configure servers for automatic clocking
Set ModeX daemon information
Go here to set ModeX configuration information

Print Services

The *Print Services* module gives YesWare visitors the ability to print to a networked printer such as one located behind the front desk of a hotel or an office services retail store.

Figure 2-14 shows the *Print Services* page. **Chapter 12, "Providing visitor printing services"** describes the operation and use of the *Print Services* module.

Figure 2-14
***Print Services* module page**


Print Services Management
Configure Printer(s)
Add/Delete/Edit Printers
Configure Printer Rates
Add/Delete Printer Rates
Map Printer(s) to Rooms
Create the Printer to Room Map, Set Rates, etc.
Configure Print Service
Turn Printer Services ON/OFF
Customer Print Page
View the Customer Print Screen. Note: This is not viewable from the public side of the network for security reasons.
View Printer Spools
See pending print jobs.

Port Manager

The Port Manager allows you to provision EtherLoop modems as well as Ethernet switches and their associated ports. From here, you can also configure the subnet mask, gateway address for the InterProxy-VBN system, branding setup, and check-in/check-out times.

The *Port Manager* module is divided into the following sections:

- **EtherLoop Modem Provisioning:** The functions in this section control the provisioning of the EtherLoop CO/SE and CPE/CE modem databases. The Find New Modems function automatically detects all modems on the same LAN segment as the YWS network interface (**ETH 0** or **ETH 1**).

  Find New Modems and ETH 0 / ETH 1
  The Find New Modems function automatically detects all modems on the same LAN segment as the YWS network interface (**ETH 0** or **ETH 1**). To detect modems in an InterProxy-VBN system, the Modex Daemon must be set to **ETH 1.** In a "one-armed" EtherLoop OAM&P system, the Modex Daemon must be set to **ETH 0**. See “Modex Daemon and ETH 0 / ETH 1” on page 2-15.

- **Ethernet Switch and Port Provisioning:** The functions in this section control the provisioning of the Ethernet switch and port databases.

  Ethernet Switches and InterProxy
  Ethernet switches and ports can only be provisioned for InterProxy (**ETH 1**) VBN systems.

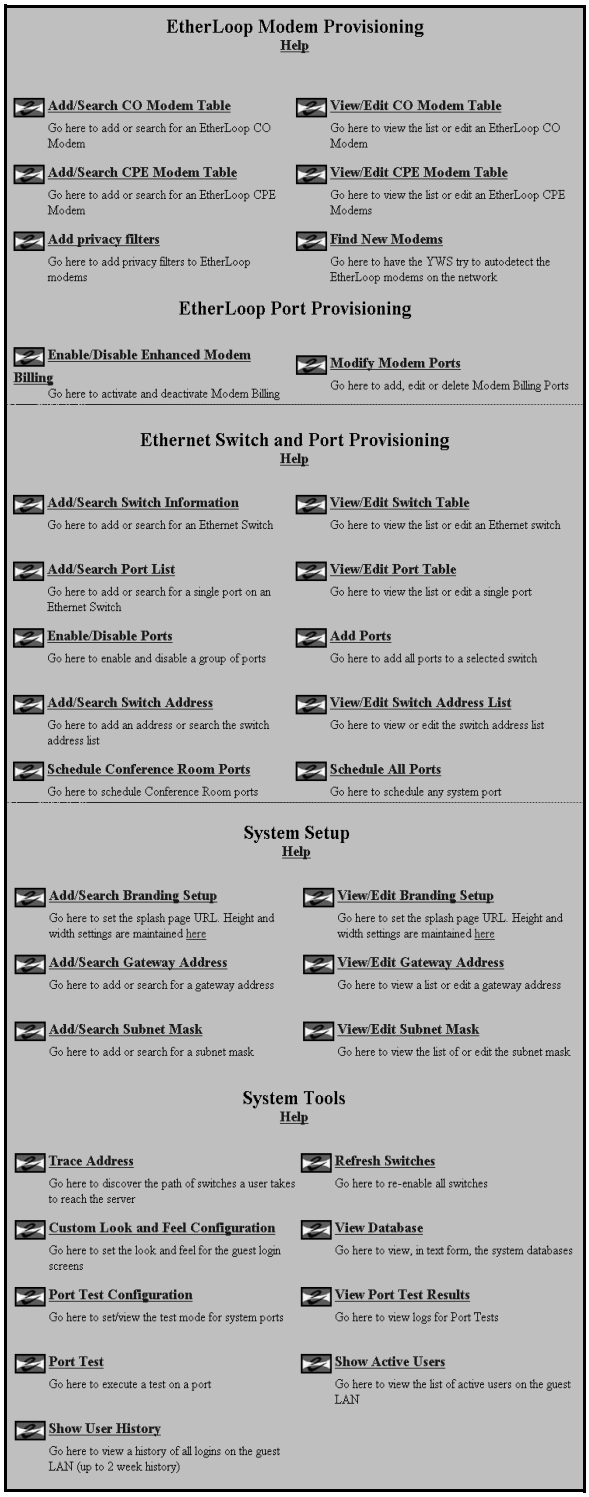
- **System Setup:** The functions in this section set up the branding configuration, which identifies the Internet Service Provider (ISP) and Home Page URL "splash page" that is displayed to YesWare end-users. Customizing the branding setup is required in order for your splash page to be presented to guest users. This section also includes the functions to set up the gateway and subnet mask used by provisioned Ethernet switches.

  Port Manager / System Setup Gateway and Subnet Mask
  System Setup Gateway=*InterProxy* **ETH 1** IP address
  System Setup Subnet Mask=*InterProxy* **ETH 1** Network Mask
  The Gateway Address used by the YesWare system is the same address as the *InterProxy* **ETH 1** IP address. The Subnet Mask address used by the YesWare system is the same address as the **ETH 1** network mask address.

- **System Tools:** The functions in this section handle port testing, tracing user activity, and customizing the YesWare end-user interface.

Figure 2-15 on page 2-19 shows the *Port Manager* page.

Figure 2-15
***Port Manager* module page**


EtherLoop Modem Provisioning
Help
Add/Search CO Modem Table
Go here to add or search for an EtherLoop CO Modem
View/Edit CO Modem Table
Go here to view the list or edit an EtherLoop CO Modem
Add/Search CPE Modem Table
Go here to add or search for an EtherLoop CPE Modem
View/Edit CPE Modem Table
Go here to view the list or edit an EtherLoop CPE Modems
Add privacy filters
Go here to add privacy filters to EtherLoop modems
Find New Modems
Go here to have the YWS try to autodetect the EtherLoop modems on the network
EtherLoop Port Provisioning
Enable/Disable Enhanced Modem Billing
Go here to activate and deactivate Modem Billing
Modify Modem Ports
Go here to add, edit or delete Modem Billing Ports
Ethernet Switch and Port Provisioning
Help
Add/Search Switch Information
Go here to add or search for an Ethernet Switch
View/Edit Switch Table
Go here to view the list or edit an Ethernet switch
Add/Search Port List
Go here to add or search for a single port on an Ethernet Switch
View/Edit Port Table
Go here to view the list or edit a single port
Enable/Disable Ports
Go here to enable and disable a group of ports
Add Ports
Go here to add all ports to a selected switch
Add/Search Switch Address
Go here to add an address or search the switch address list
View/Edit Switch Address List
Go here to view or edit the switch address list
Schedule Conference Room Ports
Go here to schedule Conference Room ports
Schedule All Ports
Go here to schedule any system port
System Setup
Help
Add/Search Branding Setup
Go here to set the splash page URL Height and width settings are maintained here
View/Edit Branding Setup
Go here to set the splash page URL Height and width settings are maintained here
Add/Search Gateway Address
Go here to add or search for a gateway address
View/Edit Gateway Address
Go here to view a list or edit a gateway address
Add/Search Subnet Mask
Go here to add or search for a subnet mask
View/Edit Subnet Mask
Go here to view the list of or edit the subnet mask
System Tools
Help
Trace Address
Go here to discover the path of switches a user takes to reach the server
Refresh Switches
Go here to re-enable all switches
Custom Look and Feel Configuration
Go here to set the look and feel for the guest login screens
View Database
Go here to view, in text form, the system databases
Port Test Configuration
Go here to set/view the test mode for system ports
View Port Test Results
Go here to view logs for Port Tests
Port Test
Go here to execute a test on a port
Show Active Users
Go here to view the list of active users on the guest LAN
Show User History
Go here to view a history of all logins on the guest LAN (up to 2 week history)

SNMP Proxy Agent

EtherLoop modems do not support the Simple Network Management Protocol (SNMP) directly. However, the modems do support the proprietary Modex protocol. Through the *SNMP Proxy Agent* and the *Modex Daemon* modules, the YWS implements both protocols and thus serves as the SNMP proxy agent for the EtherLoop modems. The *S*NMP proxy agent process is started at bootup and runs continuously. The *SNMP Proxy Agent* module can start, stop, and monitor the status of the SNMP Proxy Agent.

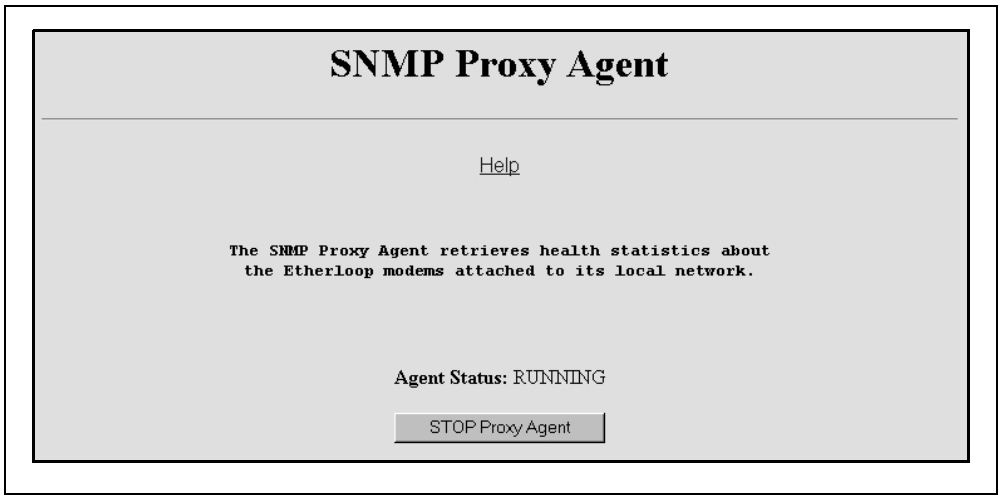
The SNMP proxy agent on the YWS accepts commands from an SNMP Network Management Station (NMS) running a third-party SNMP manager such as *HP OpenView*. The SNMP proxy agent takes the commands and retrieves statistics about the operation and performance of EtherLoop modems attached to the system using the *Modex Daemon*. The SNMP proxy agent can also retrieve basic up/down status of Ethernet switches attached to the YWS.

Setting SNMP traps

The Set SNMP Information in the **System Maintenance** section of the *NSS Maintenance* module configures the EtherLoop modems to generate SNMP traps to a particular IP address.

Figure 2-16 shows the *SNMP Proxy Agent* page. **Appendix A** describes remote YesWare management using SNMP.

Figure 2-16
***SNMP Proxy Agent* module page**

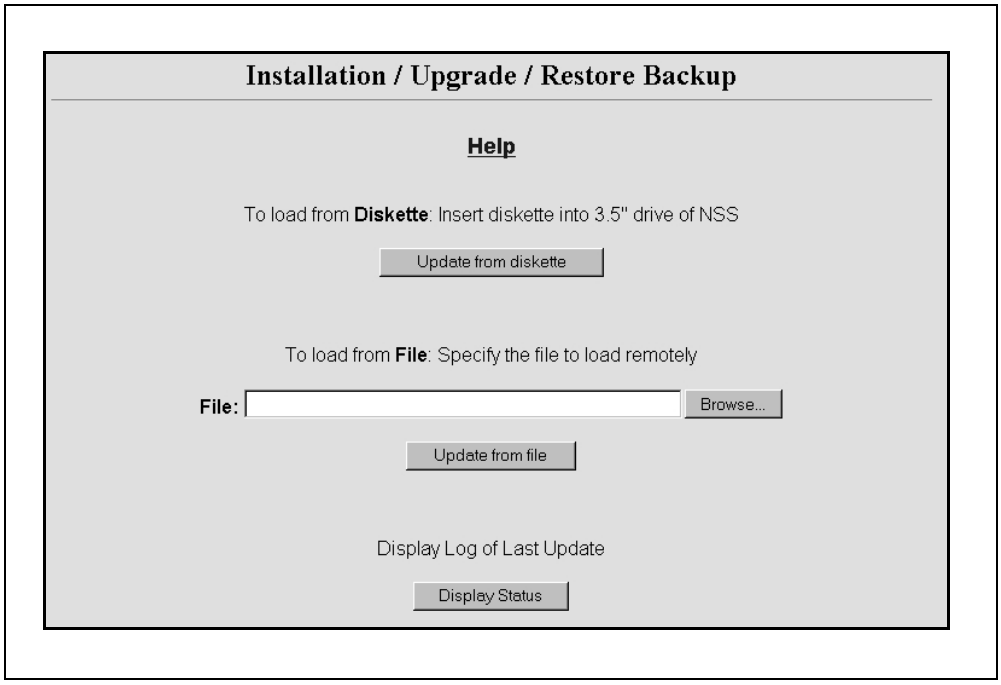

SNMP Proxy Agent
Help
The SNMP Proxy Agent retrieves health statistics about the Etherloop modems attached to its local network.
Agent Status: RUNNING
STOP Proxy Agent

Install or Upgrade

The *Install or Upgrade* module is used to install new YesWare software or upgrade the software currently installed.

Figure 2-17 shows the *Install or Upgrade* page. **Chapter 13**, "YesWare security and administration" contains the procedure for using the *Install or Upgrade* module to upgrade the software on the YWS.

Figure 2-17
***Install or Upgrade* module page**


Installation / Upgrade / Restore Backup
Help
To load from Diskette: Insert diskette into 3.5" drive of NSS
Update from diskette
To load from File: Specify the file to load remotely
File:
Browse...
Update from file
Display Log of Last Update
Display Status

SECTION II

YESWARE INSTALLATION AND CONFIGURATION

Software Release 2.30

YesWare Server host network configuration

This chapter describes the methods for connecting to the YesWare Server (YWS) and using the Elastic Operating Network (EON) operating system to configure the YWS on the host network.

Chapter topic list

This chapter includes the following topics.

Topic	See
YesWare Server	page 3-2
YesWare Server console connection methods	page 3-4
YesWare Server console interface	page 3-7

Chapter task list

This section includes the following tasks.

Procedure	Task	See
3-1	Configuring the YWS host network interface	page 3-9
3-2	Setting the YWS date and time	page 3-13
3-3	Setting the DNS nameserver(s) for the YWS	page 3-15

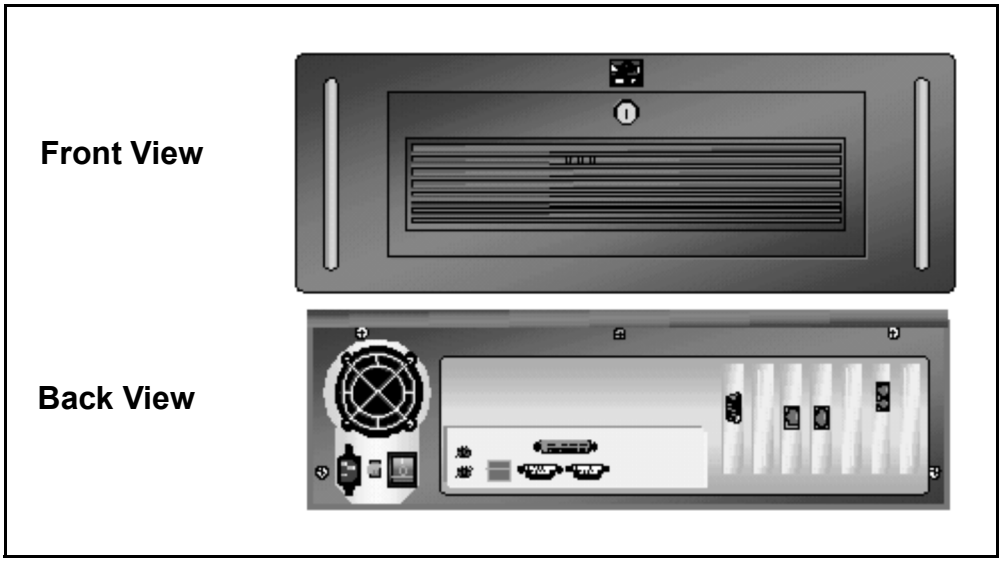
YesWare Server

The YWS is used to provision and manage services to the YesWare system infrastructure and clients. The YWS resides as a standard "host" on a local TCP/IP Ethernet host network.

> ***YesWare terminology - ETH 0 and ETH 1***
> The YWS contains two Ethernet 10Base-T network interface cards (NICs) called **ETH 0** and **ETH 1** (see Figure 3-2 on page 3-3). The **ETH 0** interface connects the YWS to the host network. The **ETH 1** interface connects YesWare clients to the YWS for access to YesWareís *InterProxy* services.

Figure 3-1 shows the YWS unit.

Figure 3-1
YesWare Server unit



YWS functional components

The YWS unit has the following functional components:

- two Ethernet 10Base-T NICs (**ETH 0** and **ETH 1**)
- two RS-232 serial ports (COM1 and COM2)
- 110/120 V AC power connector
- monitor and keyboard connectors

Figure 3-2 on page 3-3 shows the component connections on the back of the YWS unit. Table 3-1 on page 3-3 describes the function of each component.

Figure 3-2
YWS connections

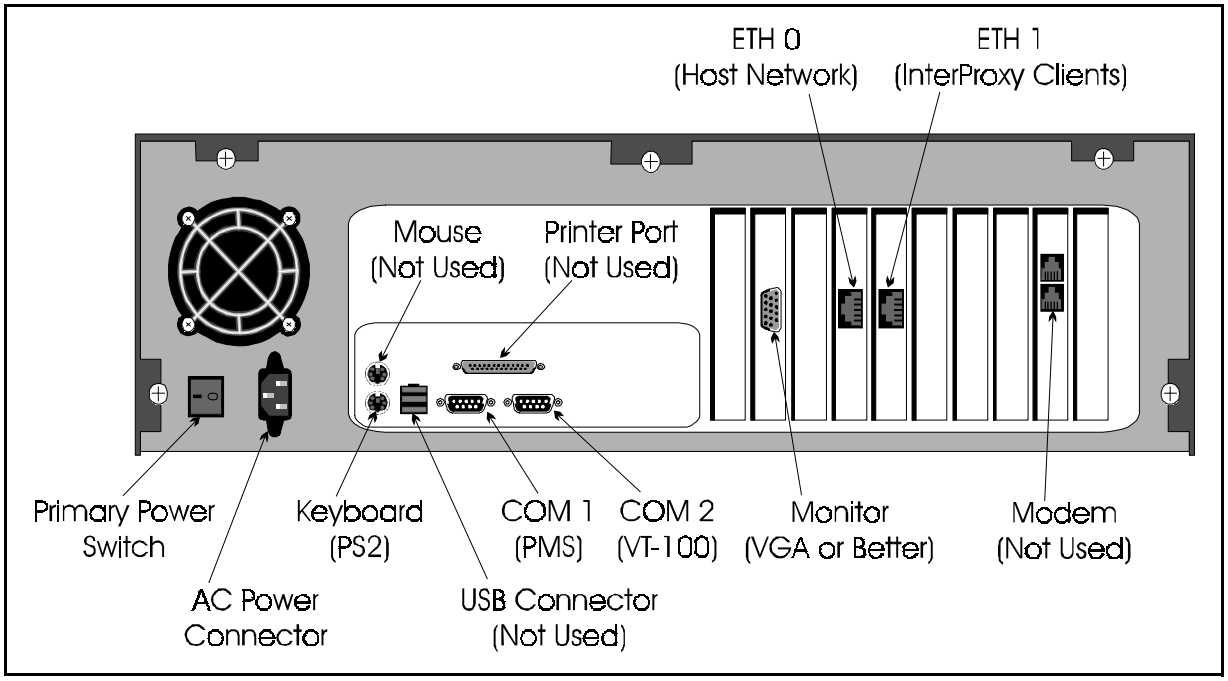


Table 3-1
YWS component connector functions

YWS Connector	Description/Function
Primary Power Switch	Controls power to unit. Secondary switch on front not used.
AC Power Connector	110/120 V AC input.
Keyboard	Standard PS2 keyboard interface.
USB Connector (not used)	Universal Serial Bus (USB) device interface.
COM 1	RS232 serial interface to Property Management System (PMS) or serial printer.
COM 2	RS232 serial interface for VT-100 terminal (or terminal emulator) used with YWS console interface.
Mouse (not used)	PS2 mouse interface.
Printer Port (not used)	Parallel printer interface.
Monitor	15-pin D-Sub monitor interface for VGA, SVGA or later model.
Modem (not used)	Analog modem.
ETH 0	Ethernet 10Base-T interface to YWS host network (LAN or WAN).
ETH 1	Ethernet 10Base-T interface to YesWare's InterProxy clients.

YesWare Server console connection methods

The YWS "console" consists of connectors located on the back of the YWS used to access the EON interface. You can connect to the YWS console using any one of the following methods:

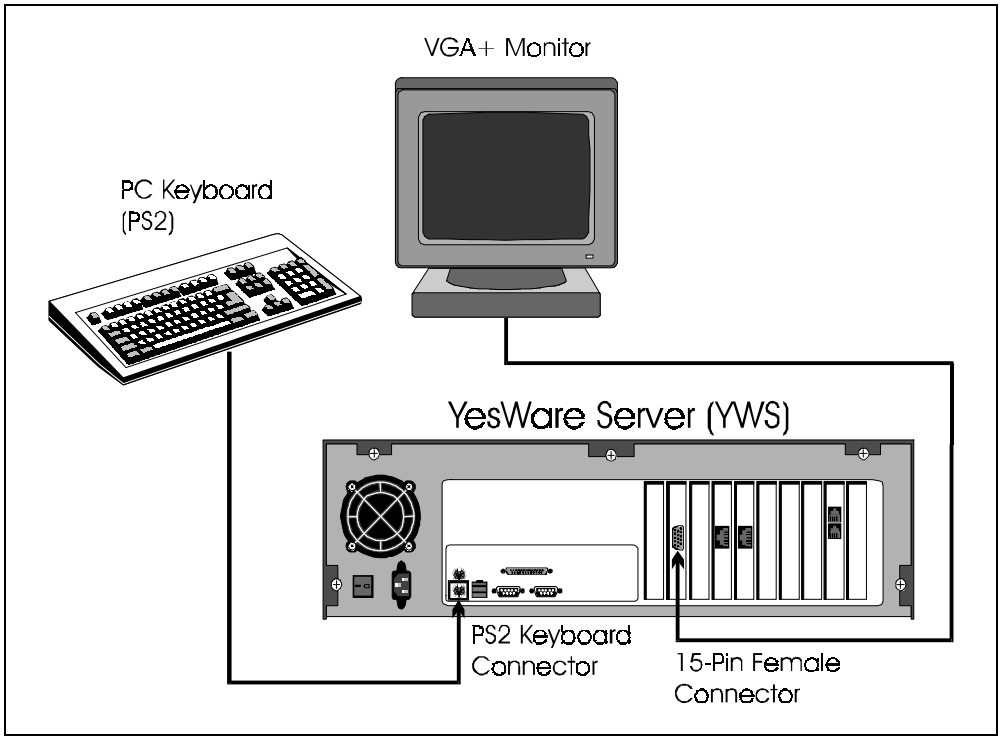
- keyboard (PS2) and monitor (VGA or better)
- VT-100 terminal emulation program on a PC with a serial communications port and a null-modem cable
- VT-100 terminal with a null-modem cable
- telnet from a PC to the YWS **ETH 0** interface

The following sections illustrate these YWS console connection methods.

YWS keyboard/monitor connections

Figure 3-3 shows the method for connecting a keyboard/monitor combination to the YWS.

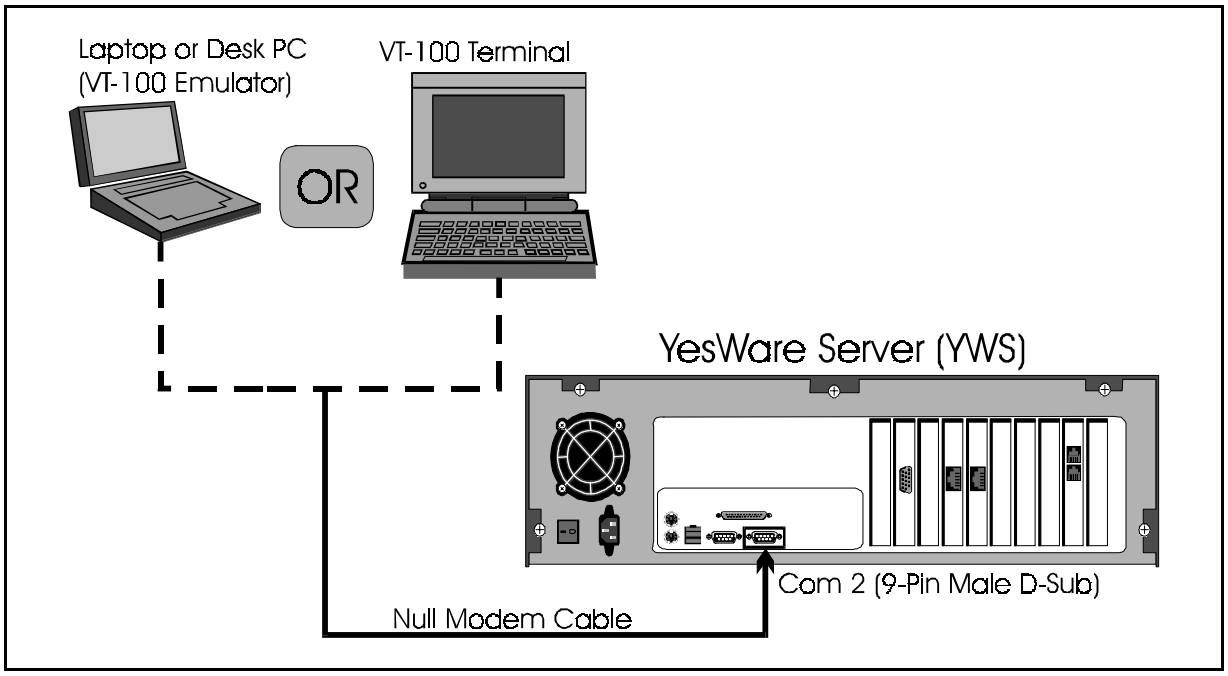
Figure 3-3
YWS keyboard/monitor connections



YWS PC/VT-100 connection

Figure 3-4 shows the method for connecting a PC with a VT-100 terminal emulator or a VT-100 terminal to the YWS serial port (COM 2).

Figure 3-4
YWS PC or VT-100 terminal console connection



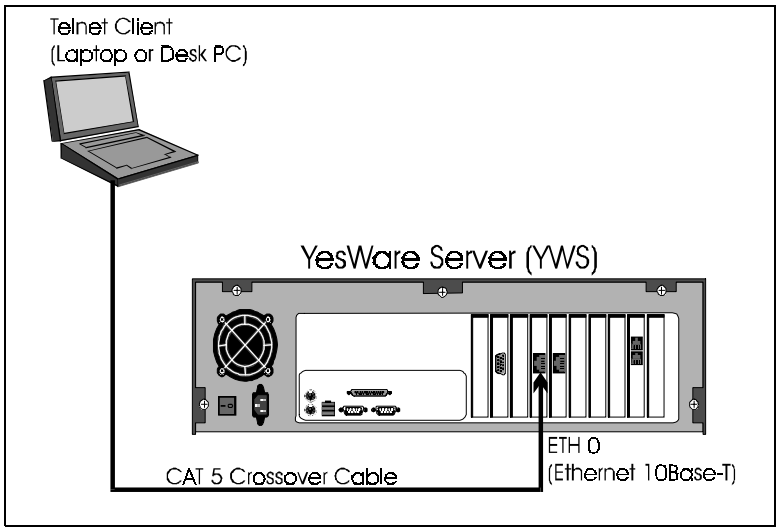
YWS telnet connection

For the initial configuration of the YWS, you can telnet to the EON interface by connecting directly to the **ETH 0** interface using a Category 5 cross-over cable. You can also telnet to the EON over an existing network connection to the **ETH 0** interface to change EON settings. Figure 3-5 on page 3-6 shows the methods for connecting to the EON interface over telnet.

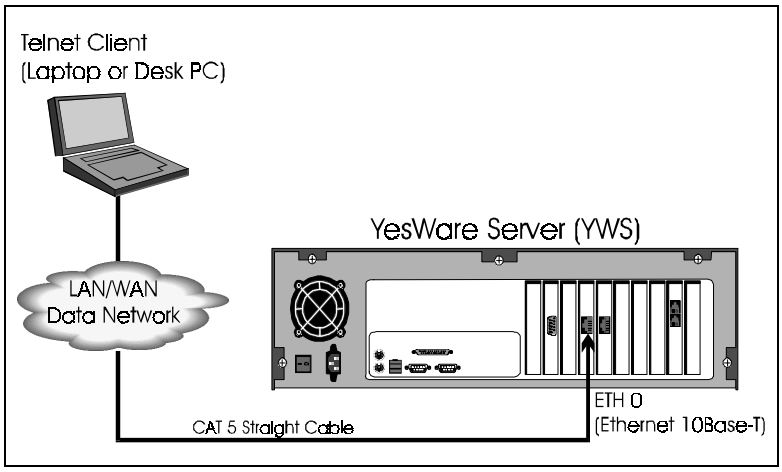
> ***CAUTION - Possible network conflict***
> The YWS ETH 0 interface has a default TCP/IP address configuration which could conflict with the host network. DO NOT connect the ETH 0 interface to a host network until you have re-configured the ETH 0 interface with a TCP/IP configuration that is valid for the host network.

Figure 3-5
YWS telnet connections

Telnet / Direct PC-to-YWS connection



Telnet / Network-to-YWS connection



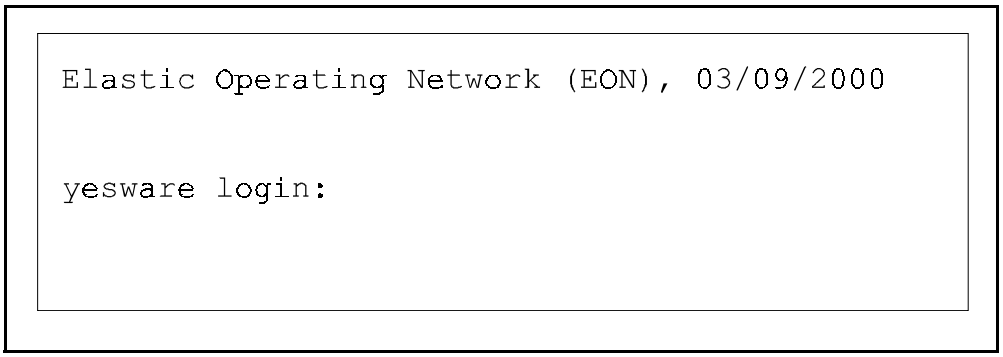
YesWare Server console interface

The YWS console interface is called the Elastic Operating Network (EON). The EON is a command-based interface used to configure the YWS on the host network. The EON can also be used to conduct low-level system diagnostics such as "ping" tests and to view route-table and **ETH 0/ETH 1** port assignments. The EON interface can only be accessed through the YWS console interface.

EON login default

Figure 3-6 shows the "login" prompt of the EON. The default YWS login name is **admin** and the password is **etherloop** (case-sensitive).

Figure 3-6
EON login prompt



EON commands

Table 3-2 lists the EON commands used to set up the YWS.

Table 3-2
EON commands

Command	Function	Syntax
help	Displays this list of EON commands.	help
route	Display YWS routing table.	route
port	Display YWS ETH 0 and ETH 1 port settings.	port
ping	Test basic communications between the YWS, client computers, and the host network.	ping
passwd	Change admin user password. For security purposes, use this command to change the default password after the first login.	passwd
configure	**Configure the ETH 0 interface network IP address, gateway, YWS host name (see nameserver command below), and time zone.**	**configure** See Procedure 3-1 on page 3-9.
nameserver (optional)	Specify the name server the YWS will use. If the YWS will use the Domain Name System (DNS), the YWS must have a valid DNS name server and host name.	nameserver (displays current nameserver settings) nameserver [front/last/del] (adds or deletes nameservers)
date	Display and set system date and time	date
reboot	Shut down and re-start the YWS. Always use this command to re-boot the YWS. Never use only the YWS power switch for a re-boot, as an uncontrolled shutdown/re-start could corrupt the EON software.	reboot
shutdown	Shut down the YWS. Always use this command to shut down the YWS. Never use only the YWS power switch for a shutdown, as an uncontrolled shutdown could corrupt the EON software.	shutdown
exit	Close the EON Configuration Manager and exit to the EON login prompt. To prevent unauthorized access to the YWS, always use this command after EON configuration tasks are done.	exit
timezone	Change the time zone used by the YWS.	timezone

Procedure 3-1
Configuring the YWS host network interface

This procedure explains how to configure the YWS host network interface (**ETH 0**) using the EON interface.

Requirements

To perform this procedure, you need the following:

- valid TCP/IP configuration for the YWS **ETH 0** network interface, including the following:
  - — IP address
  - — network mask (subnet) address
  - — network gateway address
- host name for the YWS
- DNS nameserver IP address (if applicable)
- time zone information for the YWS host network

Action

Step	Action
1	Connect to the YesWare console using one of the methods described in “YesWare Server console connection methods” on page 3-4.

2	Connect the YWS power plug to an appropriate power source, and flip the power switch ON.
	After the YWS completes its power-on initialization sequence, the YesWare login prompt should appear as follows:
	`Elastic Operating Network (EON), 03/09/2000`
	`yesware login:`

3	Enter the YWS login name and password.

—continued—

Procedure 3-1 (continued)
Configuring the YWS host network interface

Step	Action

The EON Configuration Manager "welcome" screen and command prompt appear as follows:

```
Last login: Tue Mar 28 14:22:53 on tty1

     Welcome to the NSS Configuration Manager!

**************************************************
*     Elastic Networks - Network Services System *
*                                                *
*                  Version: 1.46                 *
*                                                *
*                Copyright Notice:               *
*                                                *
*    All source code and object code associated with this
*       system is protected by copyright laws. You/The *
*  user/licensee may not under any circumstances reproduce,
*  recreate, re-engineer, record, publish, publicly exhibit, *
*  or distribute any source code or object code without the
*     express written consent of Elastic Networks, Inc.  *
*                                                *
*          Copyright 1999 Elastic Networks, Inc. *
*                   All Rights Reserved          *
*                                                *
**************************************************
      Please type 'help' for a list of commands


NSS>#
```

4 At the command prompt (NSS#>), type configure and press <ENTER>. The system displays the following:

```
NSS># configure

Configuring eth0...

NSS> Please enter IP Address: _
```

5 Enter the valid host network IP address assigned to the YWS ETH 0 network interface. The system should appear similar to the following:

```
NSS># configure

Configuring eth0...

NSS> Please enter IP Address: 1.2.3.4
NSS> Please enter Network Mask: _
```

—continued—

Procedure 3-1 (continued)
Configuring the YWS host network interface

Step	Action

6 Enter the valid network mask (subnet) address assigned to the YWS ETH 0 network interface. The system should appear similar to the following:

```
NSS># configure

Configuring eth0...

NSS> Please enter IP Address: 1.2.3.4
NSS> Please enter Network Mask: 255.255.255.0
NSS> Please enter gateway IP address (q to quit): _
```

7 Enter the valid gateway IP address assigned to the YWS ETH 0 network interface. The system should appear similar to the following:

```
NSS># configure

Configuring eth0...

NSS> Please enter IP Address: 1.2.3.4
NSS> Please enter Network Mask: 255.255.255.0
NSS> Please enter gateway IP address (q to quit): 1.2.3.1
NSS> Please enter hostname: _
```

8 Enter the host name assigned to the YWS ETH 0 network interface. If the YWS will use the Domain Name System (DNS), the YWS must have a valid DNS host name. The system should appear similar to the following:

```
NSS># configure

Configuring eth0...

NSS> Please enter IP Address: 1.2.3.4
NSS> Please enter Network Mask: 255.255.255.0
NSS> Please enter gateway IP address (q to quit): 1.2.3.1
NSS> Please enter hostname: yws.elastic.com
Please select the corresponding number for your timezone:
   1 - Alaska
   2 - Aleutian
   3 - Arizona
   4 - Central
   5 - East-Indiana
   6 - Eastern
   7 - Hawaii
   8 - Indiana-Starke
   9 - Michigan
   10 - Mountain
   11 - Pacific
   12 - Samoa
   13 - relative to GMT
_
```

—continued—

Procedure 3-1 (continued)
Configuring the YWS host network interface

Step	Action

9 Select the time zone from the list in which the YWS resides, and enter the corresponding number. The system should appear similar to the following:

```
   1 - Alaska
   2 - Aleutian
   3 - Arizona
   4 - Central
   5 - East-Indiana
   6 - Eastern
   7 - Hawaii
   8 - Indiana-Starke
   9 - Michigan
   10 - Mountain
   11 - Pacific
   12 - Samoa
   13 - relative to GMT
6

You specified the following settings:
IP Address:     1.2.3.4
NetMask:        255.255.255.0
Gateway:        1.2.3.1
Hostname:       yws.elastic.com
Domain name:    elastic.com
Time zone:      US/Eastern
NSS>
Do you want to commit these settings? (y/n)
_
```

10 If the configuration settings are correct, type y and press <ENTER>.

Go to Procedure 3-2 on page 3-13 to set the system date and time, and Procedure 3-3 on page 3-15 to configure the DNS nameserver.

You have completed this task.

Procedure 3-2
Setting the YWS date and time

This procedure explains how to use the EON **date** command to set the date and time for the YWS.

Requirements

To perform this procedure, you need the following:

- a connection to the YWS **ETH 0** network interface using one of the methods described in "YesWare Server console connection methods" on page 3-4. host name for the YWS

Action

Step	Action
1	Login to the YWS (the steps for logging into the YWS are presented in Procedure 3-1 on page 3-9).
2	At the command prompt (NSS#>), type date and press <ENTER>. The system should appear similar to the following:

```
NSS># date

Current system date & local time:

Fri Mar 31 11:24:42 EST 2000

NSS> Would you like to reset the system date & time? (y/n)
```

3	Type y and press <ENTER>. The system should appear similar to the following:

```
NSS># date

Current system date & local time:

Fri Mar 31 11:24:42 EST 2000

NSS> Would you like to reset the system date & time? (y/n)
y

Enter date and time (MM/DD/YYYY HH:MM[AM/PM]):
```

—continued—

Procedure 3-2 (continued)
Setting the YWS date and time

Step	Action
4	Enter the system date and local time. The system should appear similar to the following:

```
NSS># date

Current system date & local time:

Fri Mar 31 11:24:42 EST 2000

NSS> Would you like to reset the system date & time? (y/n)
y

Enter date and time (MM/DD/YYYY HH:MM[AM/PM]):
03/31/2000 11:27AM

Current system date & local time:

Fri Mar 31 11:27:01 EST 2000

NSS># _
```

STOP

You have completed this task.

Procedure 3-3
Setting the DNS nameserver(s) for the YWS

Use this procedure to identify the DNS nameserver used by the YWS. The EON **nameserver** command can be used to display, add or delete the IP address(es) of the DNS nameserver(s) supporting the YWS. Nameserver addresses can be added to the beginning or the end of the nameserver list. This procedure describes each of these command capabilities.

Requirements

To perform this procedure, you need the following:

- a connection to the YWS **ETH 0** network interface using one of the methods described in "YesWare Server console connection methods" on page 3-4. host name for the YWS
- a valid DNS nameserver IP address

> ***Valid host and domain name required***
> The YWS must also have a valid DNS host/domain name (host.domain.domain) defined using the EON **configure** command. See Procedure 3-1 on page 3-9.

Action

Step	Action
1	Login to the YWS (the steps for logging into the YWS are presented in Procedure 3-1 on page 3-9).
2	To display the existing nameserver addresses, type nameserver at the command prompt (NSS#>), and press <ENTER>. The system should appear similar to the following:

```
nameserver 192.168.2.1

Possible arguments to nameserver command:
  front - adds IP address to front of search list
  last  - adds IP address to end of search list
  del   - deletes IP address from list
NSS>#
```

—continued—

Procedure 3-3 (continued)
Setting the DNS nameserver(s) for the YWS

Step	Action

3 To add a nameserver to the beginning of the list of existing nameserver addresses, type nameserver front at the command prompt (NSS#>), and press <ENTER>. The system should appear similar to the following:

```
NSS>#  nameserver front
NSS> Please enter IP Address: 192.168.2.2

nameserver 192.168.2.2
nameserver 192.168.2.1
```

4 To add a nameserver to the end of the list of existing nameserver addresses, type nameserver last at the command prompt (NSS#>), and press <ENTER>. The system should appear similar to the following:

```
NSS>#  nameserver last
NSS> Please enter IP Address: 192.168.2.3

nameserver 192.168.2.2
nameserver 192.168.2.1
nameserver 192.168.2.3
```

5 To remove a nameserver from the list of existing nameserver addresses, type nameserver del at the command prompt (NSS#>), and press <ENTER>. The system should appear similar to the following:

```
NSS>#  nameserver del
NSS> Please enter IP Address: 192.168.2.2

nameserver 192.168.2.1
nameserver 192.168.2.3

NSS>#  _
```

6 Configure the InterProxy to support the VBN as described in **Chapter 4**, “InterProxy VBN configuration.”

You have completed this task.

InterProxy VBN configuration

This chapter presents procedures to configure the *InterProxy* module to support a Visitor-Based Network (VBN) system.

Chapter topic list

This chapter includes the following topics.

Topic	See
InterProxy module functions	page 4-2
InterProxy VBN system configuration	page 4-3

Chapter task list

This chapter includes the following tasks.

Procedure	Task	See
4-1	Configuring the InterProxy network connection	page 4-9

InterProxy module functions

The *InterProxy* module contains the following functions:

- Configure InterProxy
- Backup InterProxy
- Configure Remote Access
- Virtual Concierge
- Configure Proxy IP Address
- TFTP Daemon Manager

Of these *InterProxy* module functions, this chapter covers only the Configure InterProxy function used to configure the YWS to support the visitor computers on the VBN. The following sections briefly describe the purpose of each of the remaining functions, and cross-references to the location in this document covering each function.

Backup InterProxy

This function is used to backup the existing InterProxy configuration. This backup function is separate from the system backup function in the *NSS Maintenance* module. See Procedure 13-12 on page 13-27, "Backing up the InterProxy configuration," for the procedure to use this function.

Configure Remote Access

This function is used to restrict remote access to the YWS Web interface. See Procedure 13-2 on page 13-6, "Restricting web access to the YWS," for the procedure to use this function.

Virtual Concierge

This function is used to configure the IP address of a Web site that contains free content available to the VBN visitors at the YWS host site. See Chapter 10, "Customizing the VBN web site" for more information on the operation and use of this function.

Configure Proxy IP Address

This function is used to configure the IP address of a system that uses ***HTTP Proxy*** to "reverse-proxy" into the YWS. Reverse-proxy is used to access the Web interfaces of Ethernet switches in the VBN when upgrading the switch firmware. See Procedure 7-5 on page 7-22, "Upgrading Ethernet-VBN switch firmware using TFTP and HTTP Proxy" for more information.

TFTP Daemon Manager

This function is used to start and stop the **TFTP Daemon Manager** that supports Trivial File Transfer Protocol (TFTP) on the YWS. TFTP is used to transfer switch firmware upgrade files to the YWS. See Procedure 7-5 on page 7-22, "Upgrading Ethernet-VBN switch firmware using TFTP and HTTP Proxy" for more information.

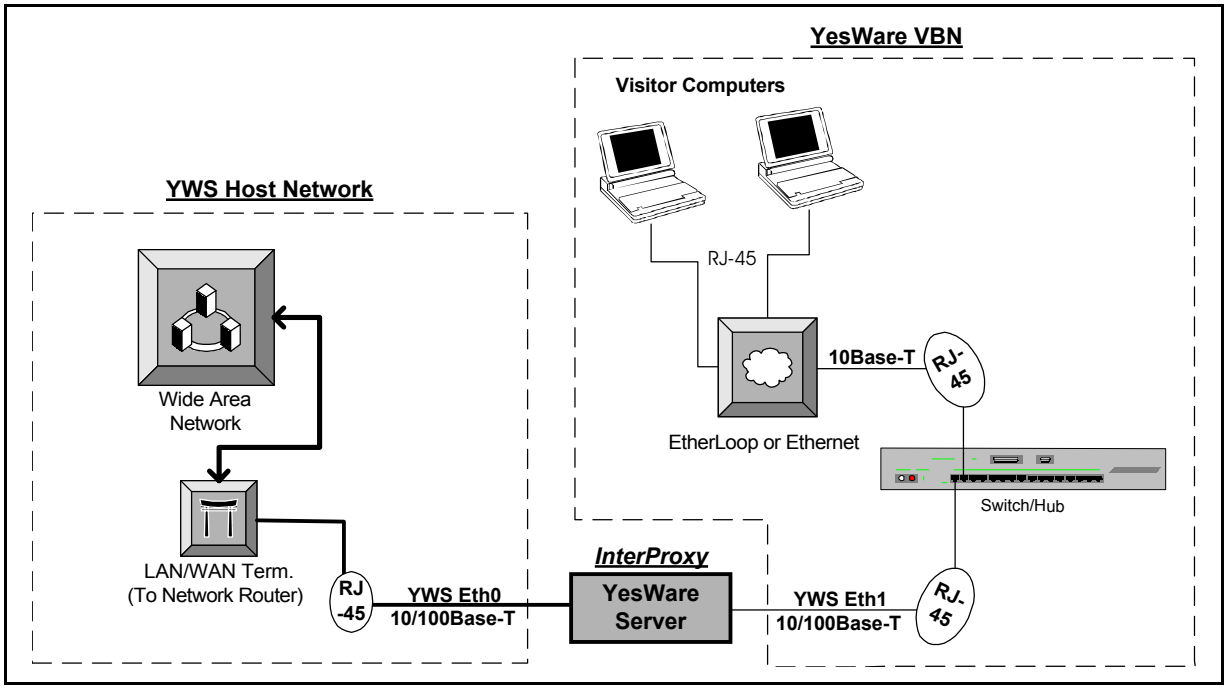
InterProxy VBN system configuration

The *InterProxy* function accepts and routes TCP/IP Ethernet traffic from visitor computers connected through a VBN infrastructure to the YWS **ETH 1** interface. InterProxy-VBN clients can connect to the network through an EtherLoop, Ethernet, or combined EtherLoop/Ethernet system infrastructure. Upon reaching the **ETH 1** interface, the YWS switches the InterProxy traffic from the **ETH 1** interface over to the **ETH 0** interface. The **ETH 0** interface connects to an external data network such as the Internet or corporate intranet.

InterProxy functional architecture

Figure 4-1 shows the InterProxy-VBN functional architecture.

Figure 4-1
InterProxy-VBN functional architecture



InterProxy limitations for visitor computers

InterProxy-based internetwork access has the following limitations:

- Visitors who have assigned IP addresses that are in the same subnet as the **ETH 0** IP address will not receive internetwork access (with the exception of IP addresses provisioned using the *Conference Scheduler* module).
- Visitors that have a home page designated with the "don't use proxies" feature enabled for the home page will not receive internetwork access.
- All InterProxy-VBN clients must reside on the same LAN segment as the YWS **ETH 1** interface. InterProxy-VBN client traffic cannot pass through a LAN router or bridge before reaching the **ETH 1** connection.

InterProxy configuration procedure

The system administrator must configure the InterProxy **ETH 1** interface for VBN routing. This is done using the **InterProxy Configuration Page** launched using the Configure InterProxy function.

Procedure 4-1 on page 4-9 contains the steps required to configure the InterProxy/**ETH 1** interface to serve a VBN system..

CAUTION - Potential network outage

The InterProxy attempts to serve as the gateway for any network to which it is connected. If the InterProxy **ETH 1** port is accidentally connected to the host network instead of the visitor network, the InterProxy will conflict with the host network routers and likely cause a network outage.

InterProxy Configuration Page

Figure 4-2 on page 4-5 shows an example of the "InterProxy Configuration Page." Table 4-1 on page 4-6 lists the settings and describes the information required to complete form for the InterProxy system configuration.

Recommended InterProxy / ETH 1 configuration settings

Elastic Networks' guidelines for configuring settings for the **ETH 1** IP address, network mask, and DHCP range described in Table 4-1 on page 4-6.

These guidelines can help ensure that ample addresses are available and that addresses do not conflict, especially when the system is installed in a corporate Intranet.

These guidelines are intended only as suggestions. Your system administrator may develop an addressing scheme that better fits your particular system management configuration.

Figure 4-2
InterProxy Configuration Page

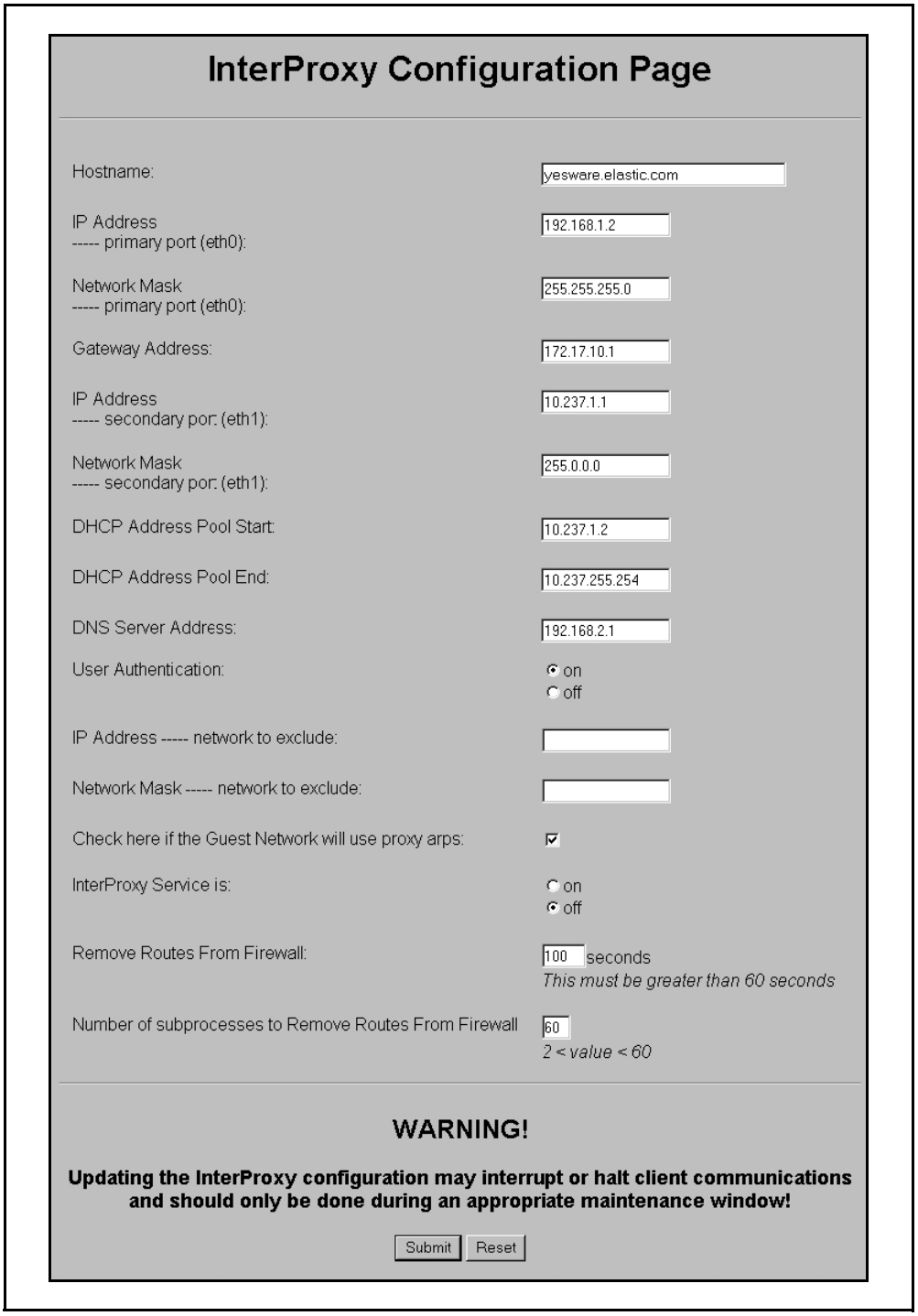


Table 4-1
InterProxy Configuration Page form entries

Form Entry	Description
Hostname	The host name and domain name assigned to the InterProxy. This entry is typically configured using the EON console interface **configure** command. **CAUTION** If an invalid host name is submitted for a system that requires service from a DNS nameserver, access using DNS will be lost.
IP Address - primary port (ETH 0)	IP address for the YWS **ETH 0** interface. **This entry must be valid** for the host network, and is typically configured using the EON console interface **configure** command. **CAUTION** If you submit a new IP address for **ETH 0,** users will not be able to access any of the YesWare modules using the old IP address. Any administrators, operators of a YesWare system must be informed of the new ETH 0 IP address.
Network Mask - primary port (ETH 0)	Network mask (also called the subnet mask) for the YWS **ETH 0** interface. **This entry must be valid** for the host network, and is typically configured using the EON console interface **configure** command. **CAUTION** Loss of communication with the **ETH 0** port will result if an invalid network mask is entered.
Gateway Address	Network gateway IP address used by the YWS. **This entry must be valid** for the host network. The gateway address is typically obtained from the host network administrator and configured using the EON console interface **configure** command. **CAUTION** Loss of communication between the InterProxy and the Internet (or main corporate network) may result if an invalid gateway address is entered.
IP Address - secondary port (ETH 1)	Enter the IP address selected for the InterProxy **ETH 1** port. This is the physical connection to the InterProxy-VBN system. The YesWare system administrator can assign any subnet IP address, provided that it meets the standard subnet criteria as defined by Internet RFC 950 (1985). Elastic Networks recommends using the default 10.237.1.1.
Network Mask - secondary port (ETH 1)	Enter the network mask for the InterProxy **ETH 1** port. This mask is used by the InterProxy subnet. Your network administrator can assign any valid subnet mask. Elastic Networks suggests using 255.0.0.0, which is a Class A subnet address, to ensure the network will not run out of network mask addresses.
—continued—	

Table 4-1
InterProxy Configuration Page form entries

Form Entry	Description
DHCP Address Pool Start and Pool End	If the InterProxy needs to support DHCP (Dynamic Host Configuration Protocol) for client computers, select and enter the pool of DHCP addresses available on the InterProxy. ***Note:*** If you do not specify a DHCP address range, then all "guest" PCs must be configured with static IP addresses. DHCP IP addresses must meet the following requirements: • The DHCP address group must fall within the port's IP address pool. The available IP address pool is based both on the IP address and the subnet mask configured for the port. • The host IP address and the broadcast IP address cannot be within the DHCP address pool. • The DHCP range cannot overlap any other equipment (Ethernet switches or CO/CPE modems) Given an **ETH 1** IP address of 10.237.1.1 and network mask of 255.0.0.0 (as suggested earlier), the following DHCP address values are recommended: **DHCP Pool Start**: 10.237.1.2 **DHCP Pool End**:10.237.3.254
DNS Server Address	This entry is typically configured using the EON **nameserver** command. If the InterProxy is going to use a DNS server to resolve names, you must provide the valid IP address of a DNS name server. Obtain the DNS server address from your network administrator. (The universal DNS number is 199.191.128.104.)
User Authentication	This option enables the YWS to require end-users to bring up a Web browser and view an external page before passing any traffic through. The default is Off. If using the *Billing Manager* module, turn this option On.
IP Address - network to exclude	This is optional. Occasionally a single physical network will host multiple logical networks (IP address spaces). In some cases, the **ETH 1** port connects to this type of network. To handle this situation, the network exclusion option allows you to specify one (and only one) additional logical subnet which the system identifies as 'local' to the InterProxy. This avoids interference in this IP address space and prevents network conflicts caused by the InterProxy attempting to proxy for machines in this address space. In this field, specify any host IP address valid for the second logical subnet (on the **ETH 1** side). This field, together with the network mask you enter in the next field, is used to identify the network to exclude (or bypass). **CAUTION** Once you configure the network exclusion option, users with foreign addresses may gain access to network resources (such as printer, file servers, etc.).

—continued—

Table 4-1
InterProxy Configuration Page form entries

Form Entry	Description
Network Mask - network to exclude	This is optional. If you specify an IP address for the second logical subnet (see previous field), you must also specify a network mask.
Check if network utilizes proxy arps	Turn this option on if the network has end-systems using proxy address resolution protocol. This prevents network conflicts caused by the InterProxy attempting to serve traffic meant for the local network router. It is recommended the Proxy Arp is enabled.
InterProxy Service	The default setting for this field is Off to prevent a network outage caused by accidentally connecting the ETH 1 port to the host LAN. This option must be turned On to provide InterProxy service. **CAUTION** If this function is not turned On, InterProxy service will not function. Users on the ETH 1 system will be prevented from routing through the InterProxy and gaining access to the ETH 0 host network.
Remove Routes From Firewall	The amount of time (in seconds) the YWS system waits before removing an unused route from the firewall rules.
Number of Subprocesses to Remove Routes From Firewall	The number of subprocess cycles that the YWS system waits before removing an unused route from the firewall rules.
—END-OF-TABLE—	

Procedure 4-1
Configuring the InterProxy network connection

Use this procedure to configure the InterProxy/**ETH 1** interface to serve a VBN system.

Action

Step	Action
1	Using a PC web browser, browse to the IP address configured for the **ETH 0** interface, and login to the YWS.
2	From the YesWare main menu, select the *InterProxy* module and select the Configure InterProxy function. *The "InterProxy Configuration Page" is displayed as shown in Figure 4-2 on page 4-5.*
3	Enter the InterProxy form entry items as described in Table 4-1 on page 4-6 according to your system requirements. Be sure to set InterProxy service radial button to "on".
4	Record the values entered on the "InterProxy Configuration Page" according to local office procedures. These values may be needed for some of the provisioning tasks performed later.
5	Click **Submit** to save the *InterProxy* settings. **CAUTION - This step overwrites previous InterProxy values** All prior InterProxy configuration values will be overwritten. If you want to discard the settings, click a module on the main menu (without clicking the submit button) and the InterProxy settings will not be submitted. ***Note:*** Once you have configured the InterProxy, you should backup your configuration on diskette and store the backup in a safe place. (See “Backing up the InterProxy configuration” on page 13-27.)
6	Continue with the provisioning process by configuring the YWS as the VBN gateway and Network Services System switch (see **Chapter 5**).

You have completed this task.

VBN gateway and Network Services System switch configuration

This chapter presents procedures to configure the YWS to serve as the gateway for the VBN system.

Chapter topic list

This chapter includes the following topics.

Topic	See
Configuration requirements	page 5-2

Chapter task list

This chapter includes the following tasks.

Procedure	Task	See
5-1	Provisioning the VBN gateway and Network Services System switch	page 5-3

Configuration requirements

The YWS **ETH 1** interface is the "gateway" to the external network used by the EtherLoop modems and/or Ethernet switches in the VBN. The "Network Services System" is the switch supporting the VBN system of EtherLoop modems and/or Ethernet switches. The system administrator must provision the **ETH 1** interface as the Network Services System switch and also as the gateway serving the VBN. This process includes the following tasks:

- The system administrator must provision the **ETH 1** interface as the single-port Network Services System switch and configure the **ETH 1** port
- The InterProxy ETH 1 IP address that was defined using the **InterProxy Configuration Page** (see Chapter 4) must be defined as the gateway address for the VBN.
- The InterProxy ETH 1 network mask that was defined using the **InterProxy Configuration Page** (see Chapter 4) must be defined as the subnet mask for the VBN.

Procedure 5-1 on page 5-3 contains the steps required to complete these tasks.

Procedure 5-1
Provisioning the VBN gateway and Network Services System switch

Use this procedure to provision the InterProxy **ETH 1** interface as VBN gateway and Network Services System switch.

> ***Note:*** See Chapter 7, "Provisioning the Ethernet-VBN switches and ports" for more information about the general requirements for Ethernet switch provisioning and the Network Services System function in an Ethernet-VBN architecture.

Action

Step	Action
1	From the YesWare Main Menu, choose **Port Manager**. *The Port Manager menu appears.*
2	In the **Ethernet Switch and Port Provisioning** section, select Add/Search Switch Address.
3	Click the Search button in the **Switch Address Configuration** dialog.
4	To prevent entering a duplicate IP address, determine if the InterProxy ETH 1 IP address has been pre-provisioned. If the ETH 1 IP address has not been provisioned, add the address as shown in Figure 5-1.

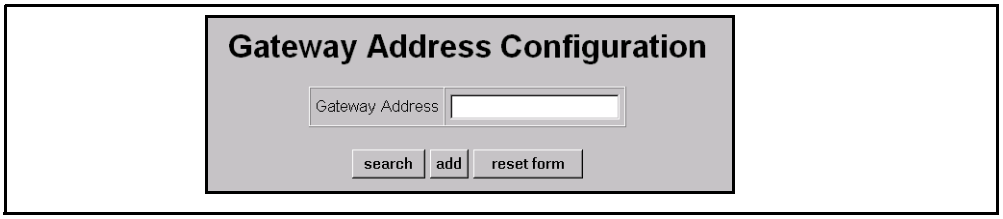
Figure 5-1
Switch Address Configuration dialog with default ETH 1 IP address

—continued—

Procedure 5-1 (continued)
Provisioning the VBN gateway and Network Services System switch

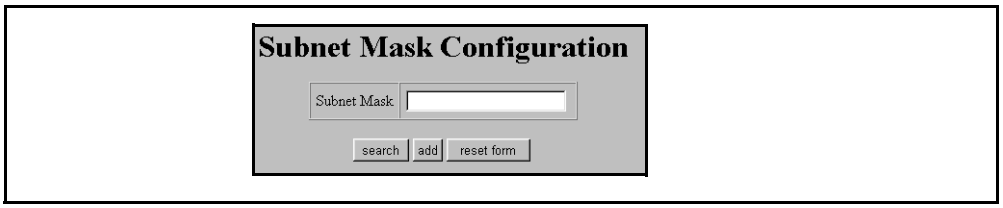
Step	Action
5	In the **System Setup** section, select Add/Search Gateway Address. *The Gateway Address Configuration dialog appears as shown in Figure 5-2 on page 5-4.*

Figure 5-2
Gateway Address Configuration dialog



Step	Action
6	Enter the ETH 1 IP address in the Gateway Address field, and click **Add**.
7	In the **System Setup** section, select **Add/Search Subnet Mask**. *The Subnet Mask Configuration dialog appears as shown in Figure 5-3.*

Figure 5-3
Subnet Mask Configuration dialog



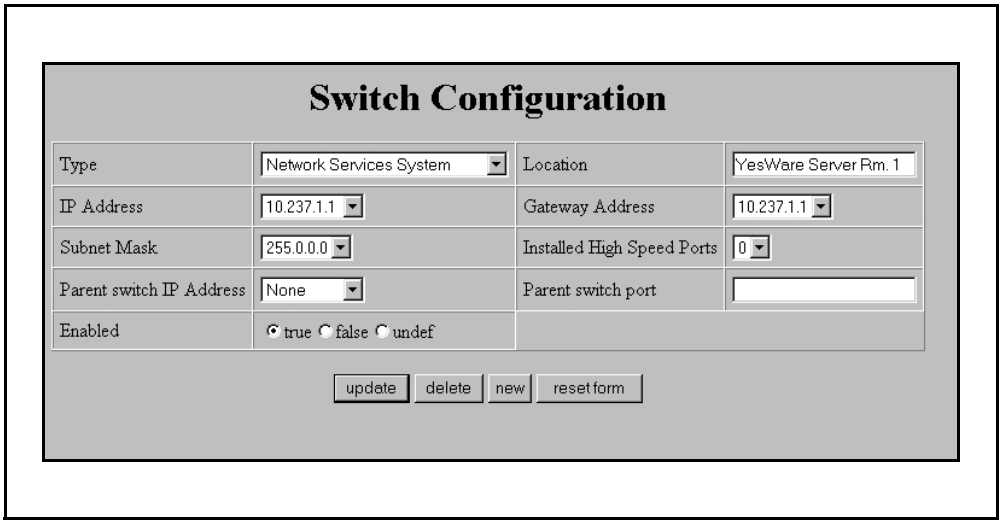
Step	Action
8	Enter the **Subnet Mask** and click **Add**. This mask must be the same as the "Network Mask" that was configured for the ETH 1 secondary port in the "InterProxy Configuration Page."

—continued—

Procedure 5-1 (continued)
Provisioning the VBN gateway and Network Services System switch

Step	Action
9	In the **Ethernet Switch and Port Provisioning** section, select Add/Search Switch Information.
10	Select the switch address corresponding to ETH 1, and click the edit link or the Search button to launch the **Switch Configuration** dialog.
11	In the **Switch Configuration** dialog, provision the ETH 1 IP address as the "Network Services System" switch. An example configuration is shown in Figure 5-4. Note the following about the Network Services System switch configuration: • The Network Services System has no "Parent" switch and no "Installed High Speed Ports." • The "Gateway Address" of the Network Services System is identical to the "IP address." • The "Enabled" field must be set to "true" for the switch to function. Table 5-1 on page 5-6 contains the recommended settings for the Network Services System in the **Switch Configuration** dialog.

Figure 5-4
Network Services System example switch configuration



—continued—

Procedure 5-1 (continued)
Provisioning the VBN gateway and Network Services System switch

Table 5-1
Network Services System switch settings

Switch Setting	Entry Description/Requirement
Switch type	Select the "Network Services System " switch type
Switch IP Address	Select the IP address of the **ETH 1** interface provisioned previously in the **Add Switch Address** dialog.
Gateway Address	Select the Gateway address provisioned previously using the Add Gateway Address function. This address should be the same address as the IP address of the **ETH 1** interface as provisioned in the **InterProxy Configuration Page**.
Subnet Mask	Select the Subnet Mask address provisioned previously using the Add Subnet Mask function. This address should be the same address as the Network Mask of the **ETH 1** interface as provisioned in the **InterProxy Configuration Page**.
Location	Text entry field indicating the physical location of the Network Services System switch (YWS). Defined according to local office procedures.
Number of high speed ports	**0/1/2** - Select "0." The Network Services System does not have a "high-speed" port.
Parent switch IP address	Select "None." The Network Services System does not have a parent switch. See Chapter 7, “Provisioning the Ethernet-VBN switches and ports” for more information.
Parent switch port	Leave this field blank. The Network Services System does not have a parent switch. See Chapter 7, “Provisioning the Ethernet-VBN switches and ports” for more information.
Enabled	**true/false/undef** - Select "true" to enable the Network Services System switch.

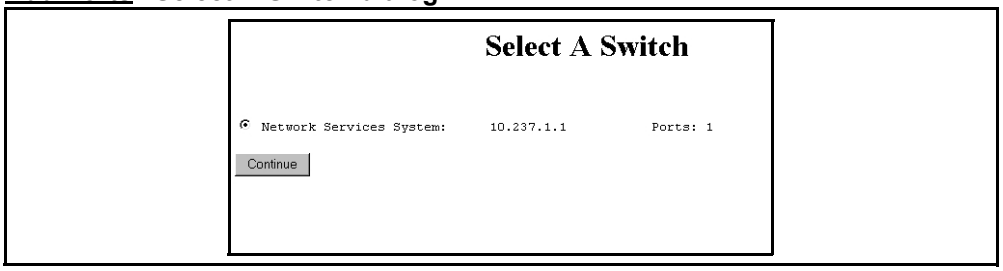
—continued—

Procedure 5-1 (continued)
Provisioning the VBN gateway and Network Services System switch

Step	Action

12 In the **Ethernet Switch and Port Provisioning** section, select Add Ports to launch the **Select A Switch** dialog as shown in Figure 5-5.

Figure 5-5
Add Ports / Select A Switch dialog

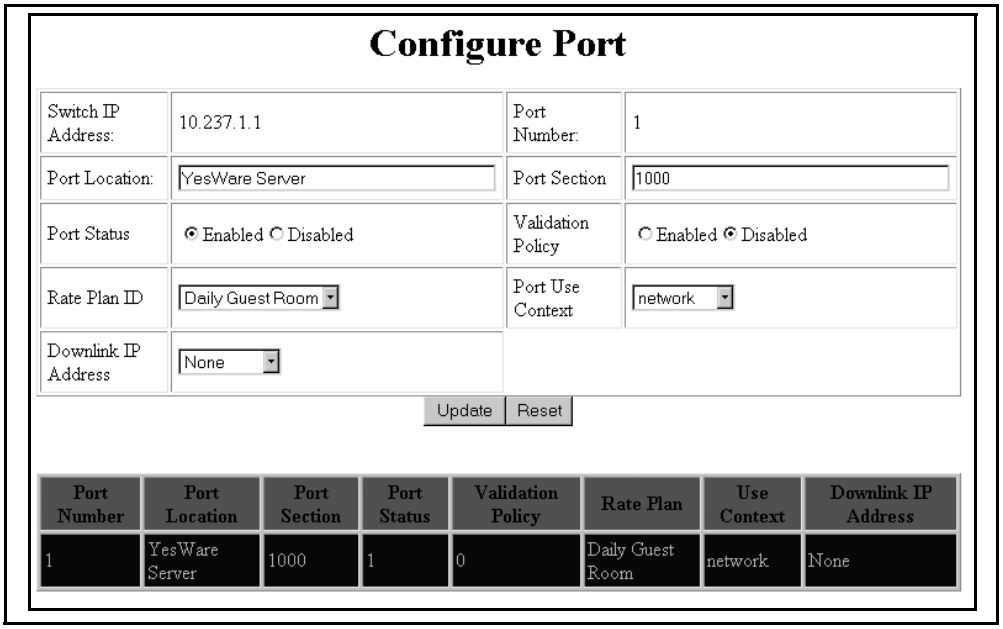


13 Select the Network Services System switch and click Continue to launch the **Configure Port** dialog.

14 In the **Configure Port (**or **Port Configuration)** dialog, provision the single Network Services System switch port. Figure 5-6 shows an example of a completed Network Services System port configuration.

Table 5-2 on page 5-8 lists the complete requirements for the Network Services System port settings. See Chapter 7, “Provisioning the Ethernet-VBN switches and ports” for more information.

Figure 5-6
Configure Port dialog



—continued—

Procedure 5-1 (continued)
Provisioning the VBN gateway and Network Services System switch

Table 5-2
Network Services System port settings

Port Setting	Configuration Requirement
Switch IP Address	Select the IP address of the Network Services System switch.
Port Number	In the Add Ports / **Configure Port** dialog, this number is automatically incremented. In the Add/Search Port List / **Port Configuration** dialog, manually enter "1" for the Network Services System port.
Port Location	Enter the location name indicating the physical location of the YWS. This location name must be unique and not shared by any other port (EtherLoop or Ethernet) in the VBN system.
Port Section	Enter the port section number assigned to the YWS. This number must be unique and not shared by any other port (EtherLoop or Ethernet) in the system.
Port Status	Enabled or Disabled. Select **Enabled** to activate service. This field **must** be enabled for the port (and the InterProxy) to function.
Validation Policy	Select "Disabled." This field controls user authentication for port-billing purposes, and the Network Services System is not a billable port. For Enhanced Modem Billing or Ethernet Port Billing, visitor authentication is managed using the CO modem port or Ethernet-VBN switch port. For Modem Connection Billing, user authentication is not supported.
Rate Plan ID	Name of the rate plan applied to this port. Not functional for the Network Services System, leave this field set as default "Daily Guest Room."
Port Use Context	Select "Network" for the Network Services System switch.
Downlink IP Address	No downlink switch is provisioned in Enhanced Modem Billing configurations. If an Ethernet-VBN switch hierarchy will be provisioned, use this field to select the IP address of the "highest" Ethernet-VBN switch in the hierarchy. See Chapter 7, “Provisioning the Ethernet-VBN switches and ports” for more information on Ethernet-VBN switch hierarchies.

Step	Action
15	Continue with the provisioning process by provisioning the **EtherLoop-VBN** database **(Chapter 6)** and/or the **Ethernet-VBN** database **(Chapter 7)**, depending on the facility requirements.

You have completed this task.

SECTION III

YESWARE SERVICE PROVISIONING

Software Release 2.30

EtherLoop system provisioning

This chapter contains instructions for provisioning EtherLoop-VBN transport systems in Enhanced Modem Billing and Modem Connection Billing configurations. This chapter also includes instructions for provisioning non-billed EtherLoop modem management systems.

Chapter topic list

This section includes the following topics:

Topic	See
Enhanced Modem Billing provisioning requirements	page 6-2
Modem Connection Billing provisioning requirements	page 6-12
EtherLoop modem management provisioning requirements	page 6-20
EtherLoop modem MAC addressing conventions	page 6-25

Chapter task list

This chapter includes the following tasks.

Procedure	Task	See
6-1	Provisioning Enhanced Modem Billing	page 6-3
6-2	Provisioning Modem Connection Billing	page 6-13
6-3	Provisioning EtherLoop modem management with a resident YWS	page 6-22
6-4	Provisioning EtherLoop modem management with a non-resident YWS	page 6-23

Enhanced Modem Billing provisioning requirements

The major tasks required to provision an Enhanced Modem Billing configuration include the following:

1 Provision the EtherLoop CO modem database.

2 Enable the Enhanced Modem Billing feature.

3 Configure the port(s) on the CO modems.

Procedure 6-1 on page 6-3 describes the steps to complete these tasks.

> ***Enhanced modem billing displaces Ethernet Port Billing***
> In this release of YesWare, Enhanced Modem Billing and Ethernet Port Billing **cannot** be used simultaneously. Facilities that require both EtherLoop and Ethernet transport systems cannot use Enhanced Modem Billing, but must instead provision Modem Connection Billing to support the EtherLoop system as described in Procedure 6-2 on page 6-13.

Enhanced Modem Billing CO modem provisioning

In Enhanced Modem Billing configurations, the CO modems are provisioned using the **Co Modem Configuration** dialog found in the **EtherLoop Modem Provisioning** section of *Port Manager*. The port(s) on the EtherLoop CO modems are provisioned as if they were ports on an Ethernet switch, using the **Port Configuration** dialog found in the **Ethernet Switch and Port Provisioning** section of *Port Manager*.

> ***Note:*** In this release of YesWare, the Modify Modem Ports function in the **EtherLoop Port Provisioning** section of *Port Manager* is not recommended and should not be used to provision Enhanced Modem Billing ports.

Enhanced Modem Billing CPE modem provisioning

The CPE modems in Enhanced Modem Billing serve only as extended connections to the CO modem ports. Enhanced Modem Billing does not support management of CPE modems, so no direct CPE modem provisioning is required. However, for billing and inventory purposes, the CPE locations must be correlated and tracked to the "Port Location" and "Port Section" fields in the Ethernet **Port Configuration** dialog.

Procedure 6-1
Provisioning Enhanced Modem Billing

Use this procedure to configure the YWS to use Enhanced Modem Billing.

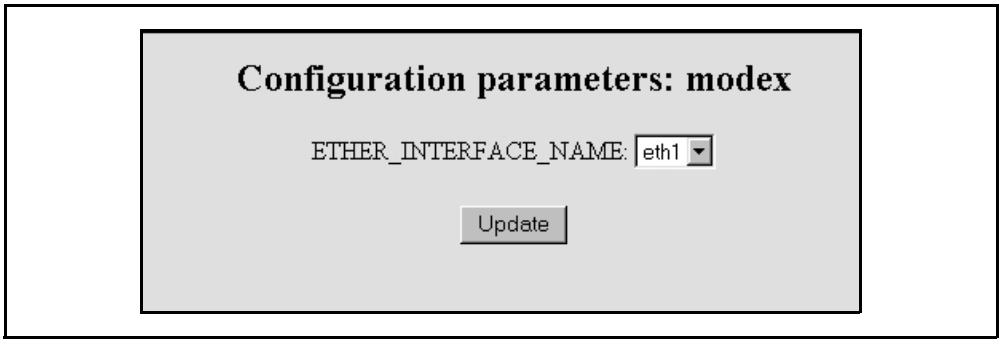
Enhanced Modem Billing firmware requirement
Enhanced Modem Billing requires that all EtherLoop modems in the system use Generation 2.09 (or higher) firmware. If the system contains EtherLoop modems running the older Generation 1 firmware, they must first be upgraded to Gen 2.09 (or higher) before performing this procedure.

Using the Find New Modems function
To use the Find New Modems function described in this procedure, the EtherLoop modems must reside on the same LAN segment as the YWS.

Action

Step	Action
1	Select the Set ModeX daemon information function in the **System Maintenance** section of the *NSS Maintenance* module. The "Configuration parameters: modex" dialog appears as shown in Figure 6-11.

Figure 6-1
Configuration parameters: modex dialog



2	Set the Modex Daemon "ETHER_INTERFACE_NAME" value to **ETH 1**.
3	Select *Port Manager* from the YesWare Main Menu.

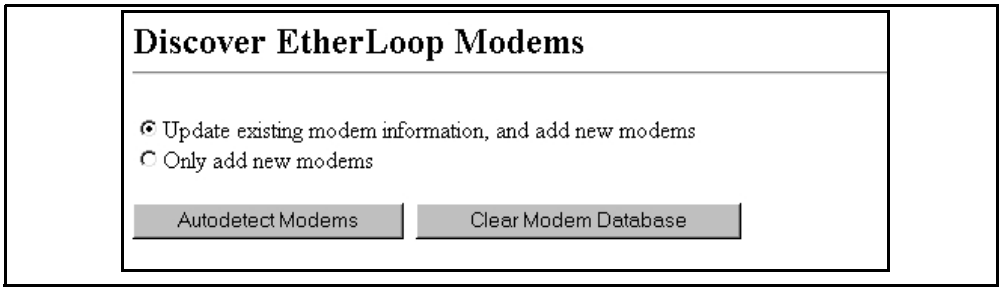
—continued—

Procedure 6-1 (continued)
Provisioning Enhanced Modem Billing

Step	Action

4 Select the Find New Modems function to launch the "Discover EtherLoop Modems" dialog as shown in Figure 6-11.

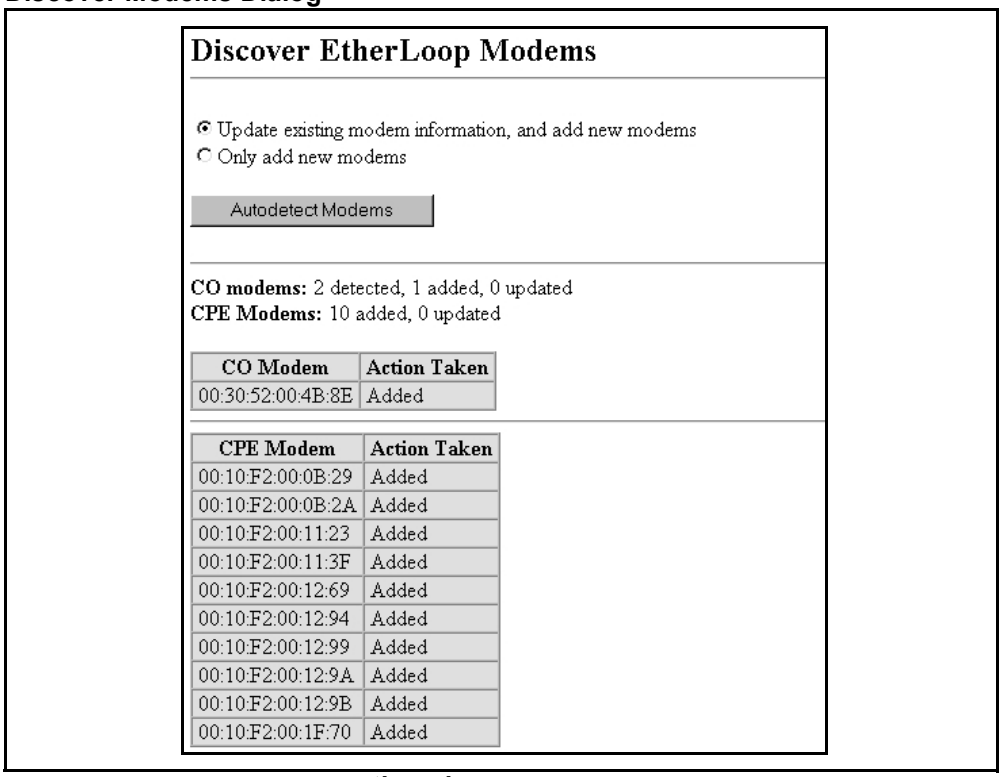
Figure 6-2
Discover EtherLoop Modems dialog


Discover EtherLoop Modems
Update existing modem information, and add new modems
Only add new modems
Autodetect Modems
Clear Modem Database

5 Click "Autodetect Modems" button.

After procesing the command, the "Discover EtherLoop Modems" dialog reappears with a list of the modems detected by MAC address as shown below.

Figure 6-3
Discover Modems Dialog

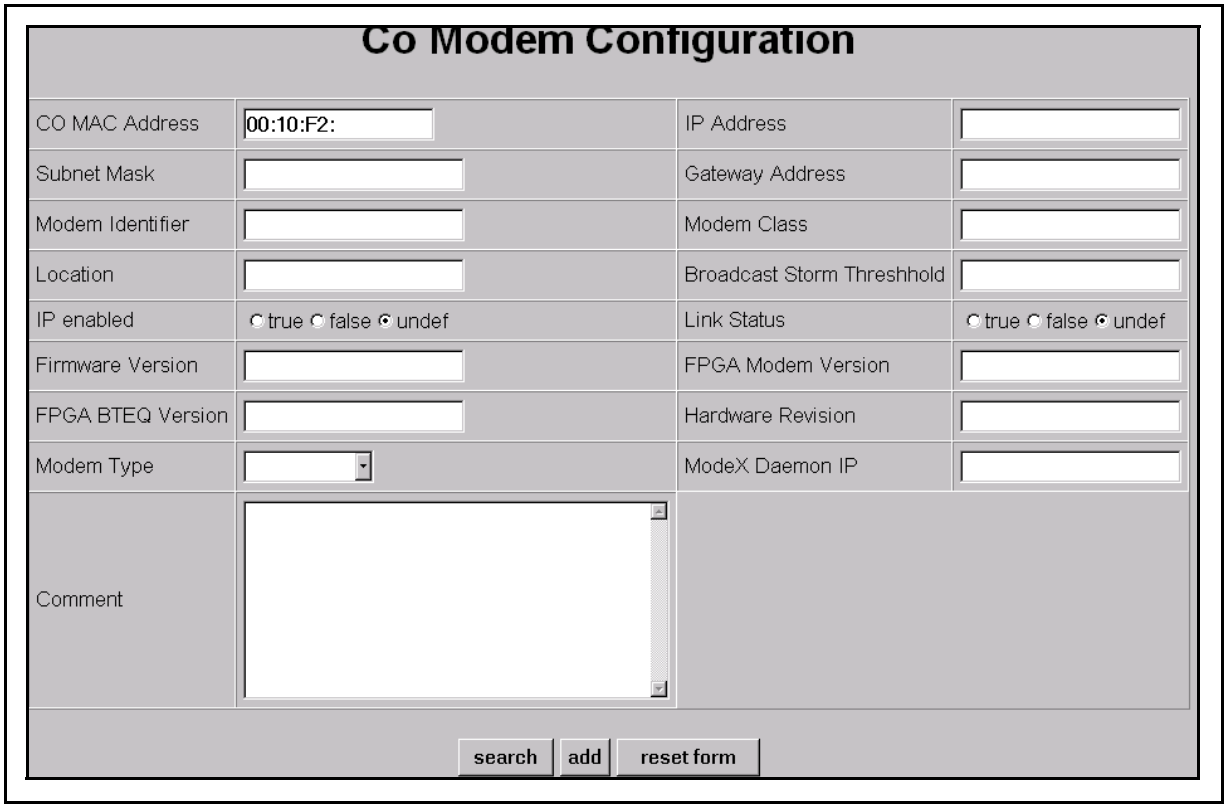


—continued—

Procedure 6-1 (continued)
Provisioning Enhanced Modem Billing

Step	Action
6	Select ***Port Manager*** from the YesWare Main Menu to return to the *Port Manager* module page.
7	In the **EtherLoop Modem Provisioning** section, select the View/Edit CO Modem Table function.
8	Click the edit link next to the desired modem to launch the **Co Modem Configuration** dialog.
9	Use the **Co Modem Configuration** dialog to complete the site-specific provisioning of all CO modems in the system. Figure 6-4 shows an example of a default **Co Modem Configuration** dialog, and Table 6-1 on page 6-6 lists the required entries for this dialog.

Figure 6-4
CO Modem Configuration dialog



—continued—

Procedure 6-1 (continued)
Provisioning Enhanced Modem Billing

Table 6-1
CO modem provisioning parameters

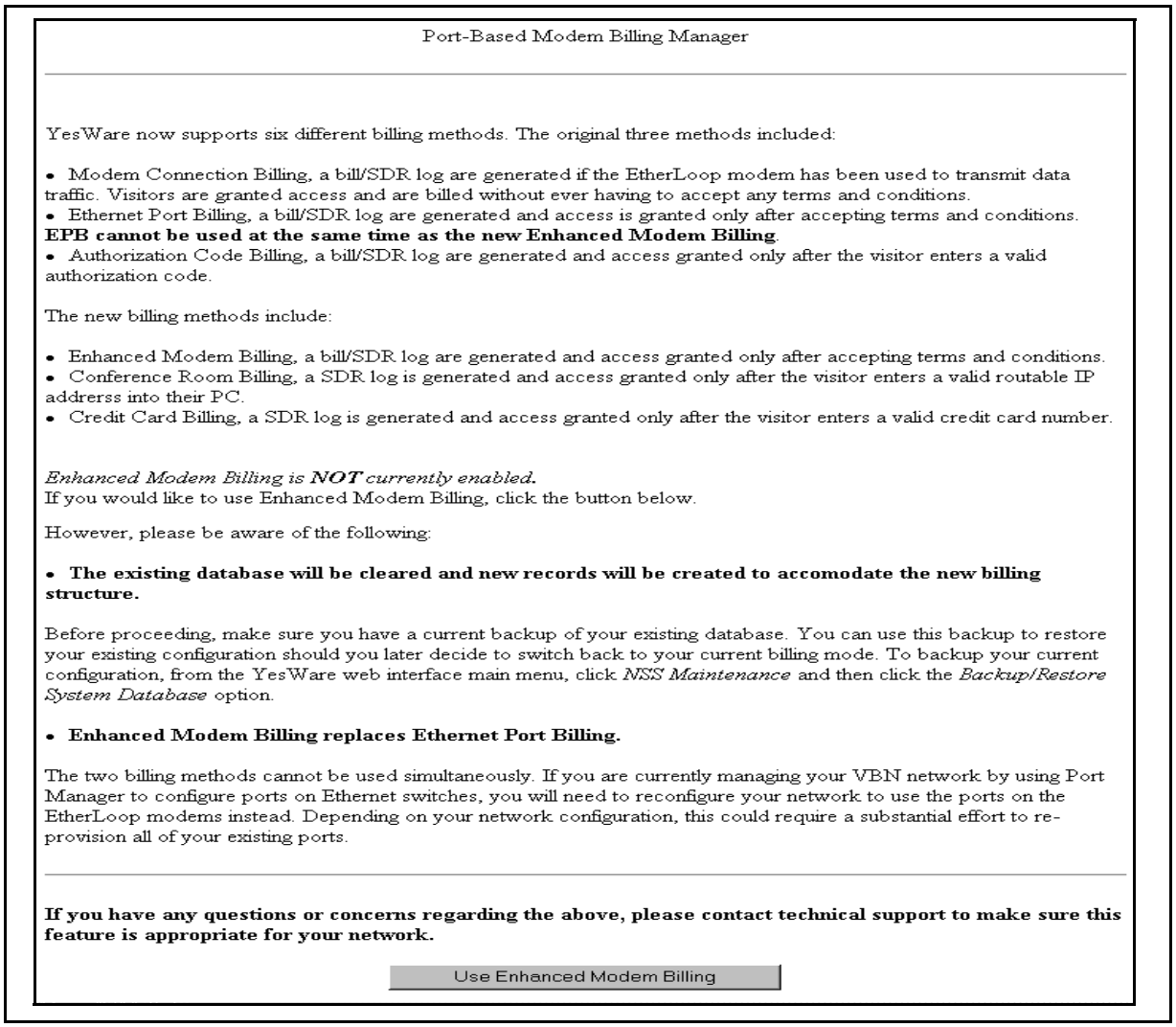
CO Modem Configuration Parameters	Parameter description
CO MAC Address **(REQUIRED)**	MAC address of the CO modem automatically generated by Find New Modems function, or manually entered here. ***Note:*** MAC addresses manually entered in this field without colons will be rejected. See “EtherLoop modem MAC addressing conventions” on page 6-25.
IP Address	Not Used
Subnet Mask	Not Used
Gateway Address	Not Used
Modem Identifier	Not used
Modem Class	Not used
Location **(REQUIRED)**	Text entry field used to indicate location of CO modem such as "120-1-1-1" for a 120 modem in rack-1/shelf-1/slot-1.
Broadcast Storm Threshold	Not used
IP Enabled (true/false/undef)	Not used
Link Status (true/false/undef)	Not Used
Firmware Version	Not used in initial provisioning. However, system auto-fills this field if a firmware upgrade is performed on the modem.
FPGA Modem Version	Not Used
FPGA BTEQ Version	Not Used
Hardware Revision	Not Used
Modem Type **(REQUIRED)**	Pull-down list used to select the type of CO modem (ELMo 120 or ELMo 8).
ModeX Daemon IP	Not Used
Comments	Text field used for descriptive information about the modem, location, facility, etc.

—continued—

Procedure 6-1 (continued)
Provisioning Enhanced Modem Billing

Step	Action
10	Select *Port Manager* from the YesWare Main Menu to return to the *Port Manager* module page.
11	Select *Enable/Disable Enhanced Modem Billing* from the **EtherLoop Port Provisioning** section to launch the **Port-Based Modem Billing Manager** dialog (see Figure 6-5). The dialog text explains the YesWare billing options and indicates whether Enhanced Modem Billing is enabled. The button at the bottom of the dialog toggles the YWS between Enhanced Modem Billing and Ethernet Port Billing.

Figure 6-5
Port-Based Modem Billing Manager dialog

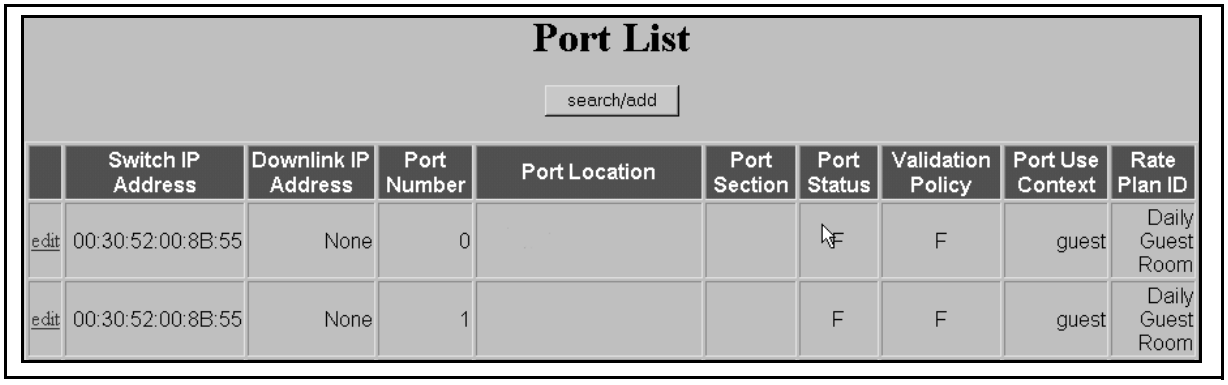

Port-Based Modem Billing Manager
YesWare now supports six different billing methods. The original three methods included:
• Modem Connection Billing, a bill/SDR log are generated if the EtherLoop modem has been used to transmit data traffic. Visitors are granted access and are billed without ever having to accept any terms and conditions.
• Ethernet Port Billing, a bill/SDR log are generated and access is granted only after accepting terms and conditions. EPB cannot be used at the same time as the new Enhanced Modem Billing.
• Authorization Code Billing, a bill/SDR log are generated and access granted only after the visitor enters a valid authorization code.
The new billing methods include:
• Enhanced Modem Billing, a bill/SDR log are generated and access granted only after accepting terms and conditions.
• Conference Room Billing, a SDR log is generated and access granted only after the visitor enters a valid routable IP adderss into their PC.
• Credit Card Billing, a SDR log is generated and access granted only after the visitor enters a valid credit card number.
Enhanced Modem Billing is NOT currently enabled.
If you would like to use Enhanced Modem Billing, click the button below.
However, please be aware of the following:
• The existing database will be cleared and new records will be created to accomodate the new billing structure.
Before proceeding, make sure you have a current backup of your existing database. You can use this backup to restore your existing configuration should you later decide to switch back to your current billing mode. To backup your current configuration, from the YesWare web interface main menu, click NSS Maintenance and then click the Backup/Restore System Database option.
• Enhanced Modem Billing replaces Ethernet Port Billing.
The two billing methods cannot be used simultaneously. If you are currently managing your VBN network by using Port Manager to configure ports on Ethernet switches, you will need to reconfigure your network to use the ports on the EtherLoop modems instead. Depending on your network configuration, this could require a substantial effort to re-provision all of your existing ports.
If you have any questions or concerns regarding the above, please contact technical support to make sure this feature is appropriate for your network.
Use Enhanced Modem Billing

—continued—

Procedure 6-1 (continued)
Provisioning Enhanced Modem Billing

Step	Action
12	In the **Port-Based Modem Billing Manager** dialog, verify that Enhanced Modem Billing is not enabled. Click the "Use Enhanced Modem Billing" button to enable Enhanced Modem Billing.
13	When the system displays that Enhanced modem billing is enabled, select ***Port Manager*** from the YesWare Main Menu to return to the *Port Manager* module page.
14	Select View/Edit Port Table from the **Ethernet Switch and Port Provisioning** section of *Port Manager* to launch the **Port List** dialog. The **Port List** dialog contains all ports found in the database. If Enhanced Modem Billing is properly enabled, the **Port List** dialog will list the MAC addresses of the CO modems in the "Switch IP Address" field associated with each port. Figure 6-6 shows an example **Port List** dialog with two unconfigured ports shown.

Figure 6-6
Port List dialog



15	Click the edit link next to the desired port to launch the **Port Configuration** dialog.

—continued—

Procedure 6-1 (continued)
Provisioning Enhanced Modem Billing

Step	Action
16	Use the **Port Configuration** dialog to complete the site-specific provisioning of the port.
17	Click the "update" button to configure the port in the database. After the system processes the command, the system will display the Port List table with the new port configuration added to the end of the port list.
18	Repeat steps 16-17 for all CO modem ports in the system Figure 6-7 shows an example of a completed **Port Configuration** dialog. Figure 6-8 shows an example of two ports configured in the **Port List** table. Table 6-2 on page 6-10 lists the required entries for the **Port Configuration** dialog.

Figure 6-7
Completed Port Configuration dialog

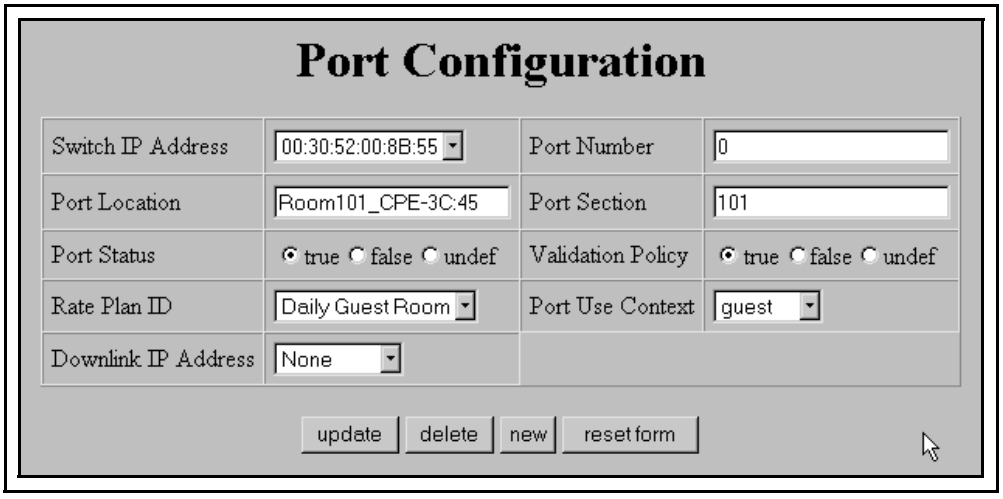
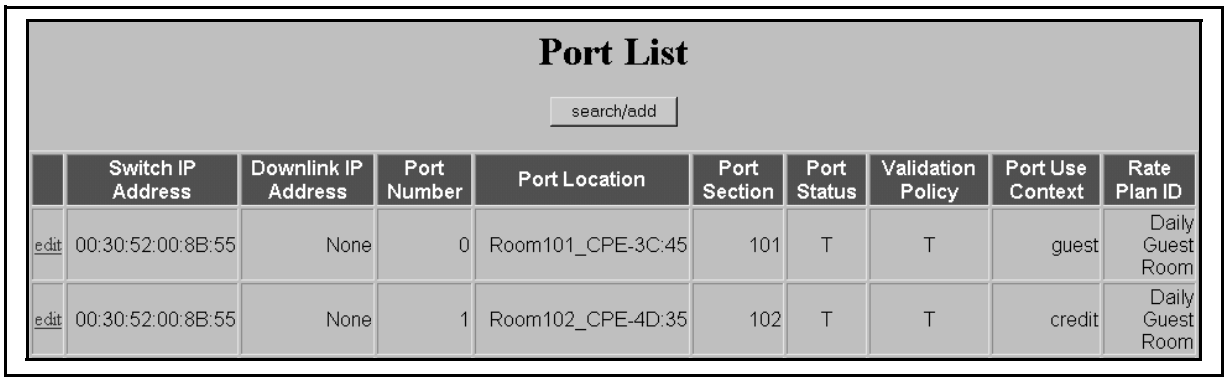


Figure 6-8
Configured ports in the Port List table



	Switch IP Address	Downlink IP Address	Port Number	Port Location	Port Section	Port Status	Validation Policy	Port Use Context	Rate Plan ID
edit	00:30:52:00:8B:55	None	0	Room101_CPE-3C:45	101	T	T	guest	Daily Guest Room
edit	00:30:52:00:8B:55	None	1	Room102_CPE-4D:35	102	T	T	credit	Daily Guest Room

—continued—

Procedure 6-1 (continued)
Provisioning Enhanced Modem Billing

Table 6-2
Port Configuration dialog settings

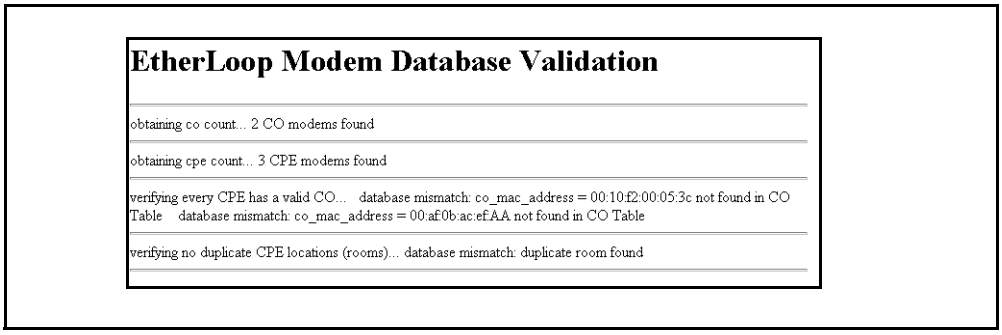
Port Setting	Configuration Requirement
Switch IP Address	Autofilled CO modem MAC address from the Port List table. Do not modify in this dialog.
Port Number	Autofilled CO modem port number from the Port List table. Do not modify in this dialog.
Port Location	Enter the location type such as "Guest Room" or "Conference Room," and a CPE modem identifier such as the last two bytes of the CPE modem MAC address.
Port Section	Enter the numeric location of the port designated by the facility billing system.
Port Status	Select Enabled. Port must be enabled to provide service.
Validation Policy	Select Enabled or Disabled. If validation policy is Enabled, port users are required to authenticate using the authentication web pages before receiving service access. See “Visitor authentication” on page 1-23 for more information.
Rate Plan ID	Name of the rate plan applied to this port. Default is "Daily Guest Room." Alternative rate plans are defined in the Billing Manager. See Chapter 8, “YesWare service billing” for more information.
Port Use Context	Select the Port Use Context from the pull-down menu. Settings include the following: • **Credit** • **Guest** • **Public** • **Meeting** • **Network** See “VBN billing methods and the Port Use Context” on page 1-15 for the Port Use Context definitions and requirements. See Chapter 8, “YesWare service billing” for additional requirements of each billing method and Port Use Context.
Downlink IP Address	Select "None." This feature is not used in Enhanced Modem Billing configurations.

—continued—

Procedure 6-1 (continued)
Provisioning Enhanced Modem Billing

Step	Action
19	Select ***NSS Maintenance*** from the YesWare Main Menu to launch the *NSS Maintenance* module page.
20	In the **System Maintenance** section, click **Validate the Modem Database**. The **EtherLoop Modem Database Validation** dialog should display the results of the database validation similar to the one shown in Figure 6-15.

Figure 6-9
EtherLoop Modem Database Validation dialog


EtherLoop Modem Database Validation
obtaining co count... 2 CO modems found
obtaining cpe count... 3 CPE modems found
verifying every CPE has a valid CO... database mismatch: co_mac_address = 00:10:f2:00:05:3c not found in CO Table database mismatch: co_mac_address = 00:af:0b:ac:ef:AA not found in CO Table
verifying no duplicate CPE locations (rooms)... database mismatch: duplicate room found

21	If required, add modem MAC address privacy filters as described in Procedure 13-1 on page 13-3.
22	Connect a "visitor" PC to as many CPE modem ports as the installation schedule will allow (at least 10%). Test the system configuration by attempting to access the Internet/WAN and verifying the following: • **Verify that the appropriate authentication page appears for each port.** That is, ports configured with the credit Port Use Context display the credit.vbn page, ports configured with the guest Port Use Context display the guest.vbn page, etc. • **Intentionally enter invalid authentication information, and verify that service is denied.** This must be done before successful authentication, because once authenticated a visitor has access to the system until the billing period expires. • **After successfully authenticating, verify Internet/WAN access is successfully granted.** That is, the visitor PC is able to access the Internet.
23	Continue with the YesWare provisioning process in Chapter 8, “YesWare service billing.”

STOP

You have completed this task.

Modem Connection Billing provisioning requirements

The major tasks required to provision a Modem Connection Billing configuration include the following:

1 Provision the EtherLoop CO modem database.

2 Provision the EtherLoop CPE modem database.

Procedure 6-2 on page 6-13 describes the steps to complete these tasks.

Use Modem Connection Billing only in combined systems

Modem Connection Billing configurations should only be used in facilities that require both EtherLoop and Ethernet transport systems. If the facility requires only EtherLoop transport, use the Enhanced Modem Billing configuration.

Modem Connection Billing provisioning dialogs

Modem Connection Billing configurations are provisioned using the **Co Modem Configuration** and **Cpe Modem Configuration** dialogs. These dialogs can be launched using either the add/search or view/edit modem table links in the **EtherLoop Modem Provisioning** section of *Port Manager*.

The steps to provision Modem Connection Billing are described in Procedure 6-2 on page 6-13.

Procedure 6-2
Provisioning Modem Connection Billing

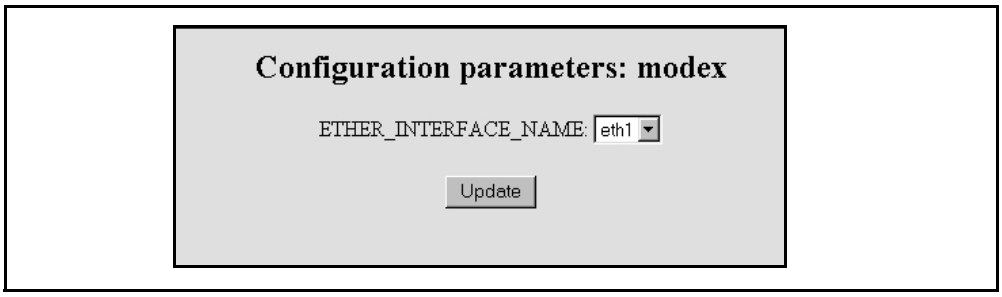
Use this procedure to build the database of EtherLoop modems managed by the YWS.

Using the Find New Modems function
To use the Find New Modems function described in this procedure, the EtherLoop modems must reside on the same LAN segment as the YWS.

Action

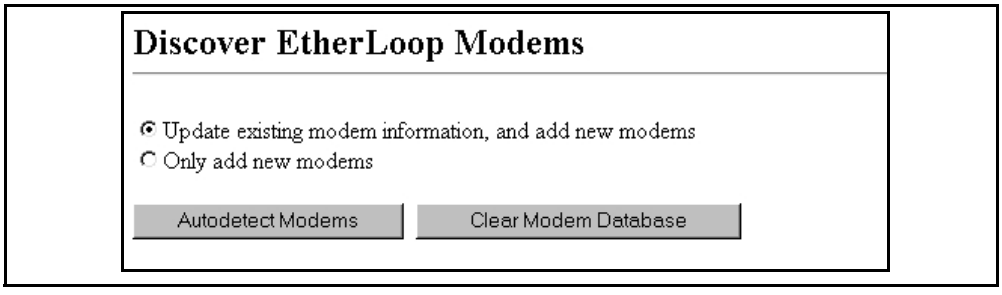
Step	Action
1	Select the Set ModeX daemon information function in the **System Maintenance** section of the *NSS Maintenance* module. The "Configuration parameters: modex" dialog appears as shown in Figure 6-10.

Figure 6-10
Configuration parameters: modex dialog



2	Set the Modex Daemon "ETHER_INTERFACE_NAME" value to ETH 1.
3	Select *Port Manager* from the YesWare Main Menu.
4	Select the Find New Modems function to launch the "Discover EtherLoop Modems" dialog as shown in Figure 6-11.

Figure 6-11
Discover EtherLoop Modems dialog

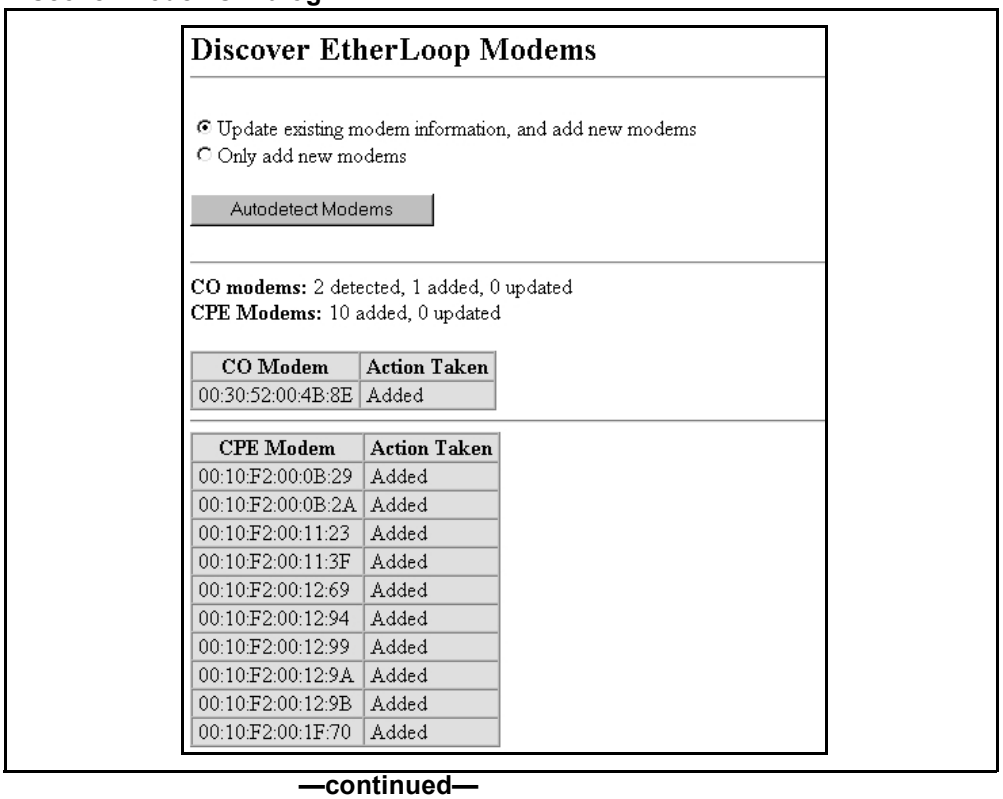

Discover EtherLoop Modems
Update existing modem information, and add new modems
Only add new modems
Autodetect Modems
Clear Modem Database

—continued—

Procedure 6-2 (continued)
Provisioning Modem Connection Billing

Step	Action
5	Click "Autodetect Modems" button. *After procesing the command, the "Discover EtherLoop Modems" dialog reappears with a list of the modems detected as shown below.*

Figure 6-12
Discover Modems Dialog

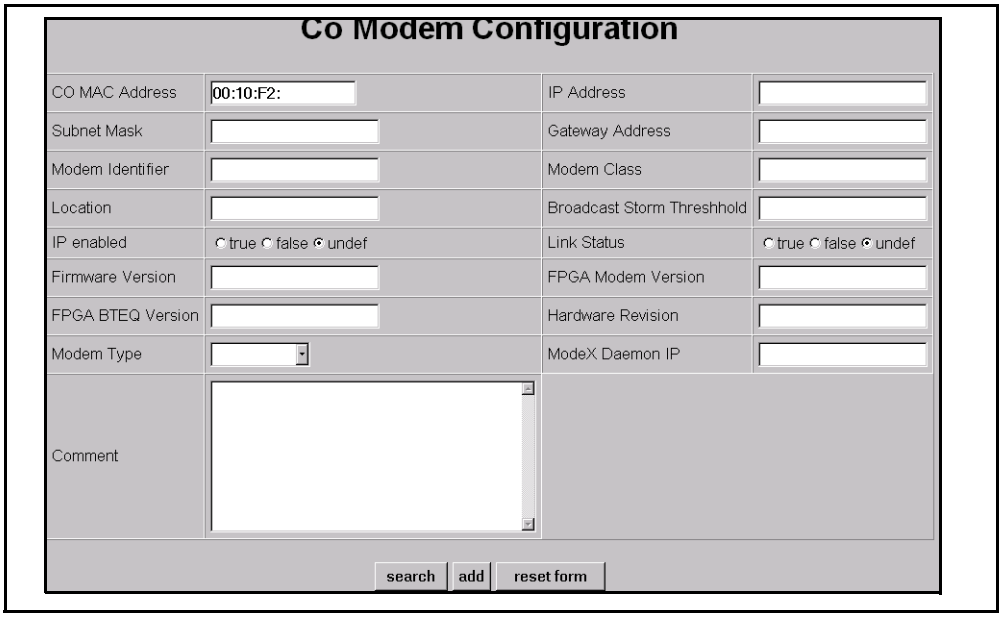


—continued—

Procedure 6-2 (continued)
Provisioning Modem Connection Billing

Step	Action
6	Select ***Port Manager*** from the YesWare Main Menu to return to the *Port Manager* module page.
7	In the **EtherLoop Modem Provisioning** section, use the **Co Modem Configuration** dialog to complete the site-specific provisioning of the CO modems. Figure 6-13 shows the default **Co Modem Configuration** dialog. Table 6-3 on page 6-16 lists and describes the acceptable and required entries for this dialog.

Figure 6-13
CO Modem Configuration dialog



—continued—

Procedure 6-2 (continued)
Provisioning Modem Connection Billing

Table 6-3
CO modem provisioning parameters

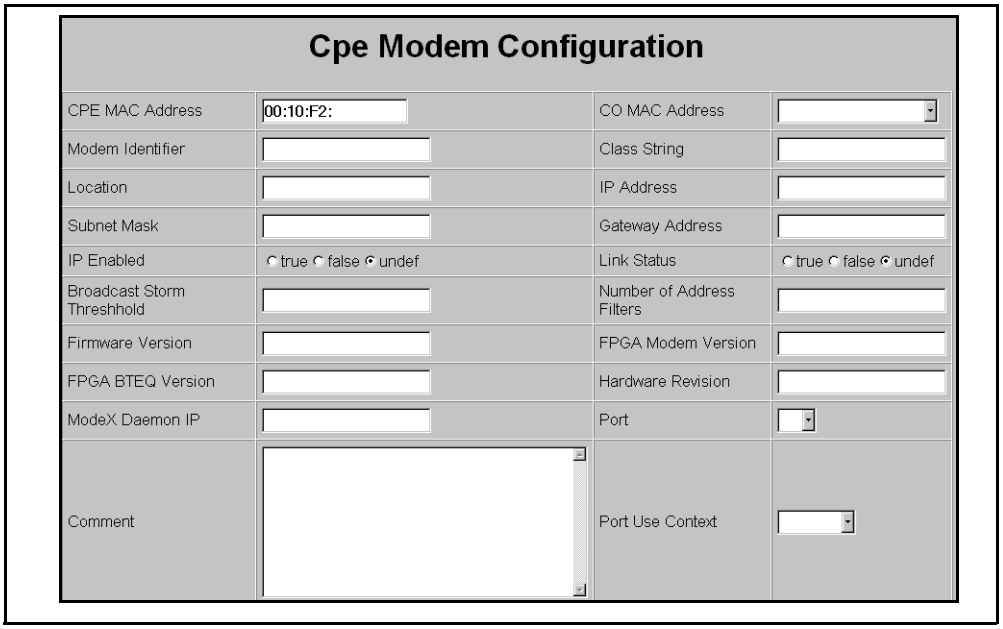
CO Modem Configuration Parameters	Parameter description
CO MAC Address **(REQUIRED)**	MAC address of the CO modem automatically generated by Find New Modems function, or manually entered in this field. ***Note:*** MAC addresses manually entered in this field without colons will be rejected. See “EtherLoop modem MAC addressing conventions” on page 6-25.
IP Address	Not used
Subnet Mask	Not used
Gateway Address	Not used
Modem Identifier	Not used
Modem Class	Not used
Location **(REQUIRED)**	Text field entry indicating location of CO modem such as "120-1-1-1" for a 120 modem in rack-1/shelf-1/slot-1. Entry should be determined according to local office procedures.
Broadcast Storm Threshold	Not used
IP Enabled (true/false/undef)	Not used
Link Status (true/false/undef)	Not used
Firmware Version	Not Used
FPGA Modem Version	Not Used
FPGA BTEQ Version	Not Used
Hardware Revision	Not Used
Comments (**OPTIONAL**)	Text field entry describing modem, facility, location, etc.

—continued—

Procedure 6-2 (continued)
Provisioning Modem Connection Billing

Step	Action
8	In the **EtherLoop Modem Provisioning** section, use the **Cpe Modem Configuration** dialog to complete the site-specific provisioning of the CPE modems. Figure 6-14 shows the default **Cpe Modem Configuration** dialog. Table 6-4 on page 6-18 lists and describes the acceptable and required entries for this dialog.

Figure 6-14
Cpe Modem Configuration dialog



—continued—

Procedure 6-2 (continued)
Provisioning Modem Connection Billing

Table 6-4
CPE modem provisioning parameters

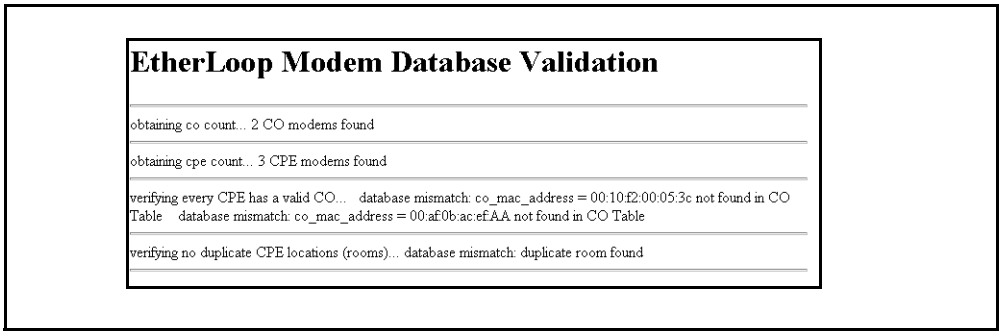
CPE Modem Configuration Parameters	Parameter/Entry description
CPE MAC Address (**REQUIRED**)	Enter the MAC address of the CPE modem (may be automatically discovered using the Find New Modems function or entered manually in this field). MAC addresses manually entered in this field without colons will be rejected. See “EtherLoop modem MAC addressing conventions” on page 6-25.
CO MAC Address (**REQUIRED**)	Select the MAC address of the CO modem assigned to this CPE modem. The CO MAC Address is provisioned in the **Co Modem Configuration** dialog and selected from a pull-down list in this dialog. If this entry is unknown, use the "Client Addresses" function in EtherCraft to determine the modem pair assignments.
Modem Identifier	Not used
Class String	Not used
Location (**REQUIRED**)	Text field entry indicating the location assigned to the CPE modem. Location should be assigned according to local office procedures.
IP Address	Not used
Subnet Mask	Not used
Gateway Address	Not used
IP Enabled	Not used
Link Status	Not used
Broadcast Storm Threshold	Not used
Number of Address Filters	Not used
Firmware Version	Not used
FPGA Modem Version	Not used
FPGA BTEQ Version	Not used
Port (**REQUIRED**)	CO modem port assigned to the CPE modem. For ELMo 8 CO modems, the port is always "0". For ELMo 120 CO modems, the port assigned can be 0-11. If the port is unknown, use "Client Addresses" in EtherCraft.
Port Use Context (**REQUIRED**)	Select the **guest** Port Use Context from pull-down menu. This is the only Port Use Context available using Modem Connection Billing.

—continued—

Procedure 6-2 (continued)
Provisioning Modem Connection Billing

Step	Action
9	If required, add modem MAC address privacy filters as described in Procedure 13-1 on page 13-3.
10	Select ***NSS Maintenance*** from the YesWare Main Menu to launch the *NSS Maintenance* module page.
11	In the **System Maintenance** section, click **Validate the Modem Database**. *The EtherLoop Modem Database Validation dialog appears similar to the one shown in Figure 6-15.*

Figure 6-15
EtherLoop Modem Database Validation dialog


EtherLoop Modem Database Validation
obtaining co count... 2 CO modems found
obtaining cpe count... 3 CPE modems found
verifying every CPE has a valid CO... database mismatch: co_mac_address = 00:10:f2:00:05:3c not found in CO Table database mismatch: co_mac_address = 00:af:0b:ac:ef:AA not found in CO Table
verifying no duplicate CPE locations (rooms)... database mismatch: duplicate room found

12	Connect a PC to as many provisioned CPE modem ports as the installation schedule will allow (at least 10%). Test the system configuration by attempting to browse the Internet/WAN.

STOP

You have completed this task.

EtherLoop modem management provisioning requirements

The main purpose of the YWS is to serve and bill InterProxy clients connected to the **ETH 1** interface. However, the YWS can also serve to monitor and manage EtherLoop modems connected to TCP/IP (non-InterProxy) network clients.

EtherLoop modem management systems serve EtherLoop modems in networks where InterProxy and YesWare billing capabilities are not required. EtherLoop modem management systems are sometimes called "one-armed," because the YWS manages the EtherLoop modems using only one interface (**ETH 0**). The second YWS "arm" (the InterProxy **ETH 1** interface) is not used in an EtherLoop modem management system.

EtherLoop modem management system requirements

Because they receive routing from a non-InterProxy network router, client computers must have valid IP addresses for the network on which they reside. In an EtherLoop modem management, YesWare's EtherLoop modem management capabilities such as *EtherCraft* and SNMP are managed through the **ETH 0** interface on the YWS. EtherLoop modems can be managed locally through modem MAC addresses or by assigning modem TCP/IP addresses.

One-armed YesWare Server

EtherLoop modem management systems are sometimes called "one-armed," because the YWS manages its EtherLoop- clients using only one interface (ETH 0). The second YWS "arm," the InterProxy-VBN ETH 1 interface, is not used in an EtherLoop modem management system.

Limited YesWare functionality

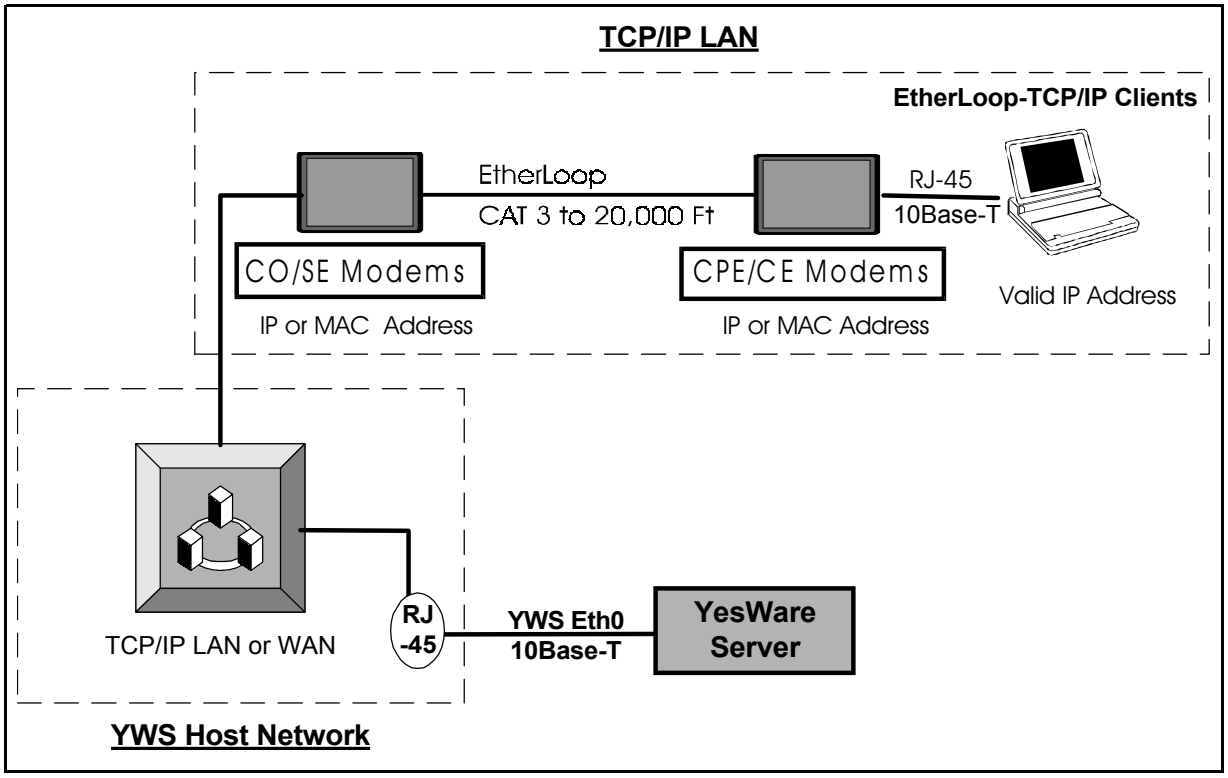
The main purpose of the YWS in an EtherLoop modem management system is to monitor and manage the EtherLoop modems supporting TCP/IP network clients. YesWare's billing capabilities are not available to non-InterProxy clients, and InterProxy service should be disabled to prevent accidental conflicts with existing routers.

Avoid network conflicts

In non-InterProxy systems, InterProxy service should be turned off and the **ETH 1** connecttion on the YWS should be marked **"DO NOT USE."** The InterProxy attempts to take over routing functions for any network to which it is connected, and will conflict with conventional network routers.

Figure 6-16 on page 6-21 shows the EtherLoop modem management system architecture.

Figure 6-16
YWS in an EtherLoop modem management system



EtherLoop modem management systems have the following requirements and features:

- client computers connected to EtherLoop modems must have valid IP addresses for the network on which they reside.
- YesWare's billing and InterProxy capabilities are not available
- EtherLoop modems can be managed locally (on the same LAN segment) through modem MAC addresses, or across a LAN/WAN by assigning each CO and CPE modem a TCP/IP address configuration for the LAN on which they reside.

Procedure 6-3 on page 6-22 contains the steps to create and provision an EtherLoop modem management system using modem MAC addresses and a resident YWS.

Procedure 6-4 on page 6-23 contains the steps to create and provision an EtherLoop modem management system using TCP/IP and a non-resident YWS.

Procedure 6-3
Provisioning EtherLoop modem management with a resident YWS

The following procedure lists the steps to create and provision an EtherLoop modem management system with the YWS as a permanent resident on the same LAN segment as the EtherLoop modems.

This procedure should be done after the EtherLoop client modems have been installed on the host network.

Action

Step	Action
1	Install the EtherLoop modems on the host network. See Elastic Networks product documentation for instructions.
2	Install and connect the **ETH 0** interface of the YWS to the same LAN segment as the EtherLoop modems.
3	Configure the YWS on the LAN with a valid IP address configuration using the procedure(s) described in Chapter 3 of this document.
4	Using a PC web browser, browse to the IP address configured for the **ETH 0** interface, and login to the YWS.
5	Select the *NSS Maintenance* / **System Maintenance** / Set Modex Daemon info function. Set the Modex Daemon from to **ETH 0**.
6	In the *Modex Daemon* module, stop and re-start the Modex Daemon. This step can also be done by shutting down and re-booting the YWS.
7	Connect the YWS **ETH 0** interface to same LAN segment as the EtherLoop client modems on the host network.
8	Select the *Port Manager* / **EtherLoop Modem Provisioning** / Find New Modems function. Autodetect the modems connected to the **ETH 0** network interface to create the modem database.
9	Provision the modem port database according to your system requirements using rest of the *Port Manager* / **EtherLoop Modem Provisioning** section (see Chapter 6).
10	Connect a PC to a network that can reach the host network. Test the EtherLoop-OAM&P system configuration by browsing to the **ETH 0 IP** address and attempting to use the YesWare OAM&P functions such as *EtherCraft* and SNMP (see Chapters A and 14).

You have completed this task.

Procedure 6-4
Provisioning EtherLoop modem management with a non-resident YWS

The following procedure lists the steps to create and provision an EtherLoop modem management system with the YWS as a permanent resident on a different LAN segment from the EtherLoop modems.

This procedure should be done after the EtherLoop client modems have been installed on the host network.

Action

Step	Action
1	Install the EtherLoop modems on the host network. See Elastic Networks product documentation for instructions.
2	Install and connect the **ETH 0** interface of the YWS to the same LAN segment as the EtherLoop modems.
3	Configure the YWS on the LAN with a valid IP address configuration using the procedure(s) described in Chapter 3 of this document.
4	Using a PC web browser, browse to the IP address configured for the **ETH 0** interface, and login to the YWS.
5	Select the *NSS Maintenance* / **System Maintenance** / Set Modex Daemon info function. Set the Modex Daemon to **ETH 0**.
6	In the *Modex Daemon* module, stop and re-start the Modex Daemon. This step can also be done by shutting down and re-booting the YWS.
7	Connect the YWS **ETH 0** interface to same LAN segment as the EtherLoop client modems on the host network.
8	Select the *Port Manager* / **EtherLoop Modem Provisioning** / Find New Modems function. Autodetect the modems connected to the **ETH 0** network interface to create the modem database.

—continued—

Procedure 6-4 (continued)
Provisioning EtherLoop modem management with a non-resident YWS

Step	Action
9	Provision each CO and CPE modem with a valid TCP/IP address configuration for the LAN on which the EtherLoop modems reside. The modem TCP/IP configuration consists of the folowing: • IP address • subnet mask • network gateway address These settings are provisioned using the *Port Manager* / EtherLoop Modem Provisioning / Add/Search [CO/CPE] Modem functions, and must be provisioned for every modem in the system (see Chapter 6).
10	Provision the modem port database according to your system requirements using the rest of the *Port Manager* / **EtherLoop Modem Provisioning** section (see Chapter 6).
11	Connect a PC to a network that can reach the host network. Test the EtherLoop-OAM&P system configuration by browsing to the **ETH 0 IP** address and attempting to use the YesWare OAM&P functions such as *EtherCraft* and SNMP (see Chapters A and 14).
12	Remove the YWS from the EtherLoop host network. Configure the YWS on the LAN where it will reside permanently. Test the EtherLoop-OAM&P system configuration again by browsing to the **ETH 0 IP** address and attempting to use the YesWare EtherLoop-OAM&P functions such as *EtherCraft* and SNMP (see Chapters A and 14).

You have completed this task.

EtherLoop modem MAC addressing conventions

The EtherLoop MAC address is the hardware media access control (MAC) address of the CO/CPE modems. MAC addresses for EtherLoop modems can be auto-detected using the Find New Modems function or entered manually. The MAC address is made up of six hexadecimal pairs of numbers, and can be found on a sticker on the CO modem unit. The CO MAC address has the following format:

0A:0A:0A:0A:0A:0A

MAC addresses manually entered in the "MAC Address" modem port configuration field without the colons will be rejected. The MAC address found on the modem unit may or may not have the colons between each hexadecimal pair of numbers. If the sticker on the modem unit has more than six pairs of numbers, use the last six pairs for the MAC address.

Provisioning the Ethernet-VBN switches and ports

Chapter topic list

This chapter includes the following topics.

Topic	See
Ethernet-VBN switch architecture and configuration requirements	page 7-5
Ethernet-VBN switch and port configuration	page 7-6
Ethernet-VBN switch maintenance	page 7-21

Chapter task list

This chapter contains the following tasks.

Procedure	Task	See
7-1	Provisioning the Ethernet-VBN switch and port database	page 7-10
7-2	Verifying Ethernet-VBN Architecture	page 7-14
7-3	Testing the Ethernet-VBN system Configuration	page 7-16
7-4	Viewing Real-Time Switch Status	page 7-18
7-5	Upgrading Ethernet-VBN switch firmware using TFTP and HTTP Proxy	page 7-22
7-6	Using the Refresh Switches function	page 7-25
7-7	Using the View Database function	page 7-26
7-8	Testing Ethernet-VBN ports	page 7-27

Ethernet-VBN switch architecture and configuration requirements

The major steps required to provision switches in an Ethernet-VBN system include the following:

1 Install the Ethernet switches on the visitor (**ETH 1**) network.

2 Install the YWS **ETH 1** interface on the same LAN segment as the Ethernet-VBN switches.

3 Provision the VBN gateway and Network Services System switch (see Chapter 5)

4 Add the Ethernet-VBN switch IP addresses, switch configurations, and port configurations to the YesWare database.

This chapter contains instructions for step **4** of the above list, using the Ethernet switch and port configuration dialogs to provision an Ethernet-VBN system. The following sections describe the architecture and configuration requirements for Ethernet-VBN systems.

Ethernet-VBN architecture provisioning requirements

Ethernet-VBN switches are configured in an "inverted-tree" architecture, with the YWS ETH 1 port serving as the top or "trunk" of the inverted tree, and the Ethernet-VBN switches serving as the tree "branches." The inverted switch-tree architecture is provisioned by setting "downlink" port connections between switches, and provisioning "parent" switches that are used to form the tree branches.

Ethernet-VBN downlink ports

Downlink ports are the ports on a switch that connect to ports on other switches that are "down" the switch-tree architecture. Each port "downlink" to a switch must be assigned the IP address of the downlink switch in the "Downlink IP Address" field of the **Port Configuration** dialog.

Ethernet-VBN parent switches

Parent switches are the first switch "up" the switch-tree architecture from the switch being configured. All Ethernet-VBN switches except the YWS **ETH 1** must have one (and only one) parent switch. Each switch must have the IP address of its parent switch assigned in the "Parent Switch IP Address" field of the **Switch Configuration** dialog.

Ethernet-VBN configuration requirements

When installing and configuring the Ethernet-VBN system, the following system design and architecture requirements must be observed:

1 The YWS **ETH 1** interface must be configured as a "Network Services System" switch (see Chapter 5).

2 The Ethernet-VBN system must be installed in a physical (as opposed to virtual) tree configuration, with the YWS **ETH 1** interface configured at the "top" of the system tree.

3 The YWS **ETH 0** interface must be configured and connected to the LAN with access to a WAN router. See Figure 7-1.

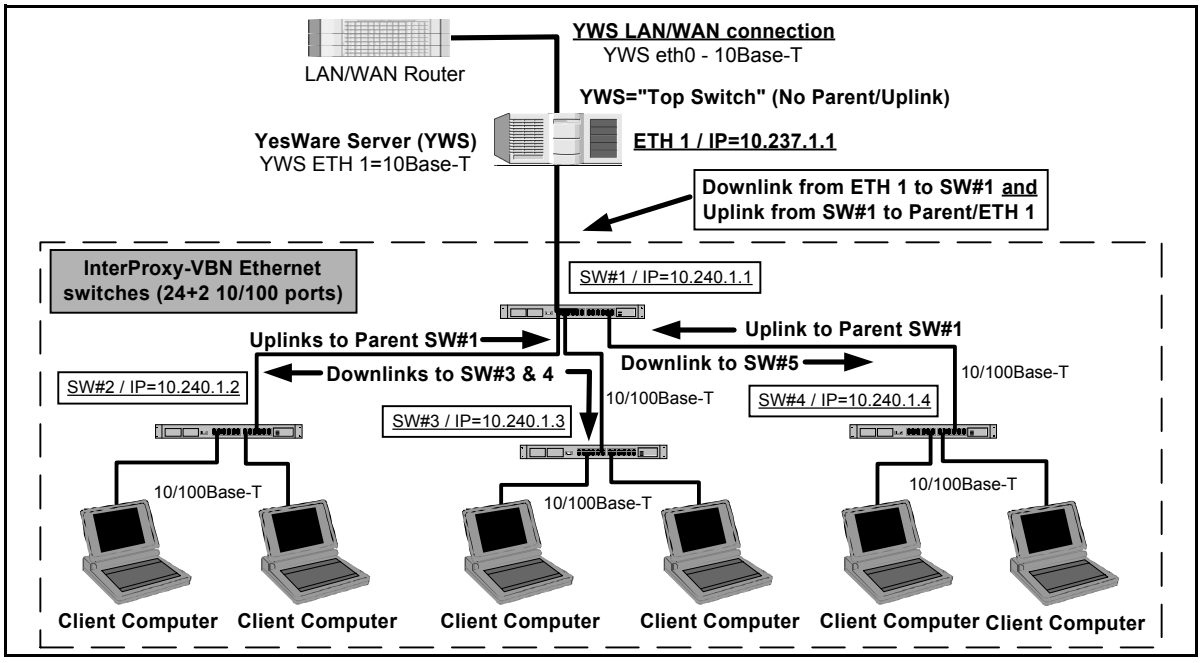
4 Each Ethernet-VBN switch can support multiple downlink switches, but only one **Parent** or uplink switch. See Figure 7-1 and "Ethernet-VBN configuration example notes" on page 7-4 for more information.

5 Ports connected to other switches or the YWS must be provisioned as "network" ports, and must be assigned a **Downlink IP Address**. See "Ethernet-VBN configuration example notes" on page 7-4 for more information.

6 The Ethernet-VBN system does not support virtual LAN (vLAN) or virtual spanning-tree functionality, and the Ethernet-VBN system cannot contain any physical loops.

The following sections explain the requirements for the example Ethernet-VBN configuration shown in Figure 7-1.

Figure 7-1
Ethernet-VBN configuration example



Ethernet-VBN configuration example notes

Note the following about the example shown in Figure 7-1 on page 7-3:

- YWS **ETH 1** has no parent switch
- YWS **ETH 1** is the parent of SW#1
- SW#1 is the downlink of YWS **ETH 1** (the YWS can have only one downlink)
- SW#1 is the parent of SW#2, SW#3, and SW#4
- SW#2, SW#3, and SW#4 are downlinks from SW#1

Also, assume the following for the switches shown in Figure 7-1 on page 7-3:

Parent Switch/Port	Downlink Switch / IP Address
YWS / **ETH 1**	SW#1 / 10.240.1.1
SW#1 / **Port 10**	SW#2 / 10.240.1.2
SW#1 / **Port 15**	SW#3 / 10.240.1.3
SW#1 / **Port 20**	SW#4 / 10.240.1.4

Example parent switch configuration

For the example as illustrated in Figure 7-1, the following would be provisioned in the "Parent IP Address" field of the **Switch Configuration** dialog:

- **SW#1** would be assigned a "Parent IP address" of 10.237.1.1, the IP address of the YWS **ETH 1**.
- **SW#2 / SW#3 / SW#4** would be assigned a "Parent IP address" of 10.240.1.1, the IP address of SW#1.

Example downlink port configuration

For the example as illustrated in Figure 7-1, the following must be provisioned in the "Downlink IP Address" field of the **Configure Port** dialog:

- **YWS / ETH 1** must be assigned a "Downlink IP address" of 10.240.1.1, the IP address of SW#1.
- **SW#1 / Port 10** must be assigned a "Downlink IP address" of 10.240.1.2, the IP address of SW#2.
- **SW#1 / Port 15** must be assigned a "Downlink IP address" of 10.240.1.3, the IP address of SW#3.
- **SW#1 / Port 20** must be assigned a "Downlink IP address" of 10.240.1.4, the IP address of SW#4.

In addition, in the **Configure Port** dialog for all of the above downlink ports, the Port Use Context must be provisioned to "Network."

Ethernet-VBN TCP/IP addressing guidelines

All Ethernet-VBN switches must have assigned IP addresses. Ethernet-VBN IP addresses must be identically assigned in both the switch console interface and the YesWare *Port Manager* module. Because the Ethernet-VBN switches receive routing from "behind" the *InterProxy* / **ETH 1** interface, Ethernet-VBN IP addresses can be assigned by the YesWare system manager or administrator, and do not have to be valid for the host LAN. However, the assigned switch IP addresses must conform to basic TCP/IP addressing conventions.

Table 7-1 lists the IP addressing guidelines developed by Elastic Networks.

Table 7-1
Ethernet-VBN IP addressing guidelines

Ethernet-VBN IP setting	Recommendation
ETH 1 IP address (default)	10.237.1.1
ETH 1 network mask (default)	255.0.0.0
DHCP Pool Start	10.237.1.2
DHCP Pool End	10.237.3.254
Ethernet-VBN switches	10.240.x.y

The guidelines in Table 7-1 are intended only as suggestions. A host network administrator may develop an addressing scheme that better fits the particular system management configuration.

Ethernet-VBN switch and port configuration

This section describes the configuration requirements to use the BayStack 303- or Cisco 2900XL-compatible switches in Ethernet-VBN switches as described in “Ethernet-VBN switch architecture and configuration requirements” on page 7-2.

Procedure 7-1 on page 7-10 describes the Ethernet-VBN switch and port configuration procedure.

"Network Services System" switch type configuration

The "Network Services System" switch type is used to configure the YWS ETH 1 interface as a single-port switch serving EtherLoop modems and/or Ethernet-VBN switches.

See “Provisioning the VBN gateway and Network Services System switch” on page 5-3 for instructions on configuring the Network Services System switch type.

Switch Configuration dialog

Figure 7-2 shows the **Switch Configuration** dialog. Table 7-2 on page 7-7 lists and describes the acceptable and required entries for this dialog.

Figure 7-2
Switch Configuration dialog

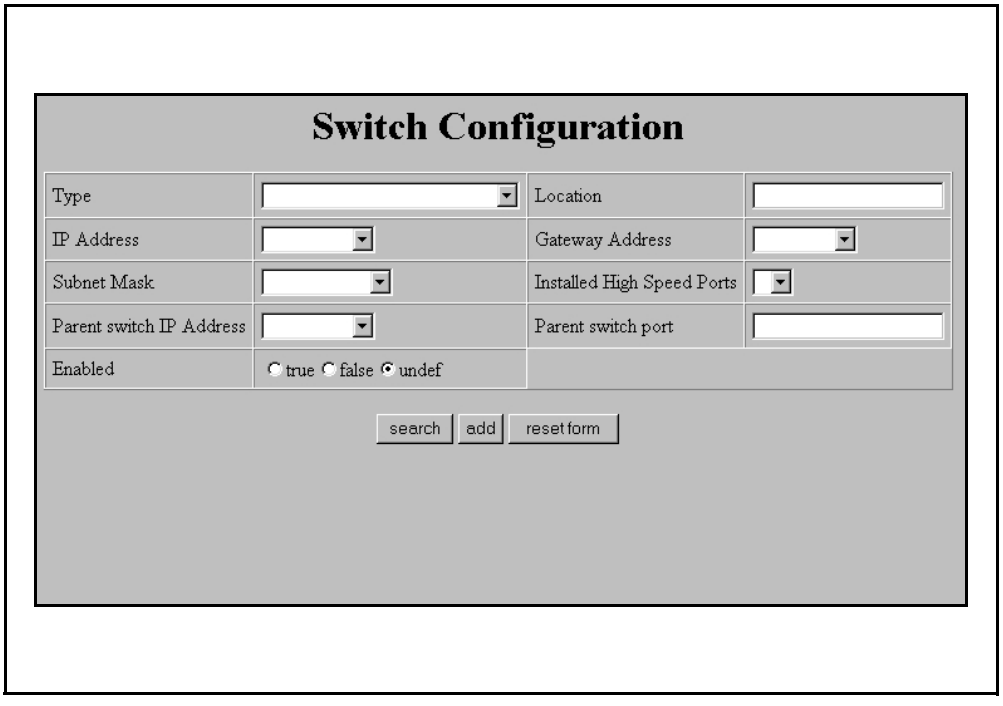


Table 7-2
InterProxy-VBN/Ethernet switch configuration

Switch Setting	Entry Description/Requirement
Switch type	Choose "BayStack 303" or "Cisco 2900XL" for all Ethernet-VBN switches.
Switch IP Address	Select the IP address of a switch provisioned previously using the Add/Search Switch Address function.
Gateway Address	Select the Gateway address provisioned previously using the Add Gateway Address function.
Subnet Mask	Select the Subnet Mask address provisioned previously using the Add Subnet Mask function.
Physical location	Text entry field defined according to local office procedures.
Number of high speed ports	Number of high speed or auxiliary ports installed/used on the switch. YesWare can support up to two high speed/auxiliary ports on Ethernet-VBN switches.
Parent switch IP address	IP address of the "Parent" switch of the switch being configured. For the YesWare Server (Network Services System), select "None".
Parent switch port	Enter the port on the Parent switch supporting the switch being configured. For the "highest" Ethernet-VBN switch with the parent being the Network Services System (YWS), enter "1".
Switch status	Enabled or Disabled. Select enabled if the switch will support service immediately. Disabled switches do not support YesWare services.

Port configuration

Port configuration for Ethernet-VBN switches is done in the *Port Manager* / **Ethernet Switch and Port Provisioning** section using the Add Ports, Add/Search Port List and View/Edit Port Table functions. Table 7-3 describes the purpose and use of these port configuration functions.

Table 7-3
Ethernet-VBN port configuration functions

Function Name	Purpose	Use
Add Ports	Use this function to create the port database (add and configure the ports for a provisioned switch).	Clicking on the Add Ports link, selecting a switch and clicking continue launches the **Configure Port** dialog (see Note), with all the ports for the selected switch available for configuration.
Add/Search Port List	Use this function to search for a port or group of ports in the database, or to configure and add a single port.	Clicking on the Add/Search Port List launches the **Port Configuration** dialog (see Note), with "Search" and "Add" buttons allowing the user to search for a port or ports based on port parameters, or define and add a single port to the database.
View/Edit Port Table	Use this function to view all ports in the database.	Clicking on the View/Edit Port Table launches the Port List dialog, listing all ports in the database with an Edit link that launches the **Port Configuration** dialog (see Note) allowing the user to update or delete the port.
Note: The **Configure Port** dialog and the **Port Configuration** dialog from the contain the same fields with the same field entry requirements.		

Figure 7-3 shows the **Port Configuration** dialog. Table 7-4 on page 7-9 lists and describes the acceptable and required entries for this dialog.

Figure 7-3
Port Configuration dialog

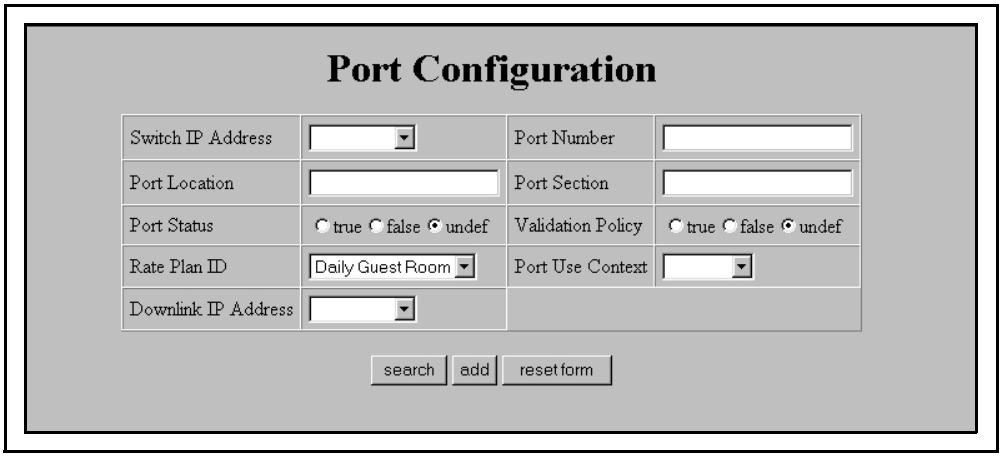


Table 7-4
Ethernet-VBN port configuration settings

Port Setting	Configuration Requirement
Switch IP Address	Select the IP address of a switch provisioned previously using the Add/Search Switch Address function.
Port Number	The number of the port being provisioned. This number is automatically incremented in the Add Ports function dialog, or manually entered in the Add/Search Port List function dialog.
Port Location	Enter the location type such as "Kiosk" or "Conference Room," and any other information that will help identify the physical location of the port.
Port Section	Enter the numeric location of the port designated by the facility billing system.
Port Status	Select Enabled. Port must be enabled to provide service.
Validation Policy	Select Enabled or Disabled. If validation policy is Enabled, port users are required to authenticate using the authentication web pages before receiving service access. See “Visitor authentication” on page 1-23 for more information.
Rate Plan ID	Name of the rate plan applied to this port. Default is "Daily Guest Room." Alternative rate plans are defined in the Billing Manager. See Chapter 8, “YesWare service billing” for more information.
Port Use Context	Select the Port Use Context from the pull-down menu. Settings include the following: • **Credit** • **Guest** • **Public** • **Meeting** • **Network** See “VBN billing methods and the Port Use Context” on page 1-15 for the Port Use Context definitions and requirements. See Chapter 8, “YesWare service billing” for additional requirements of each billing method and Port Use Context.
Downlink IP Address	Select the provisioned Downlink IP Address of the switch downlink for the port. This field is used only for ports that are provisioned as the "Network" Port Use Context. This menu lists only IP addresses previously defined using the Adding switch IP addresses procedure.

Procedure 7-1
Provisioning the Ethernet-VBN switch and port database

This procedure describes the steps required to provision the Ethernet-VBN switches and ports.

Action

Step	Action
1	From the YesWare Main Menu, choose **Port Manager**. *The Port Manager menu appears.*
2	In the **Ethernet Switch and Port Provisioning** section, select Add/Search Switch Address.
3	Using the Switch Address Configuration dialog, add the switch IP addresses for all Ethernet-VBN switches to be provisioned.

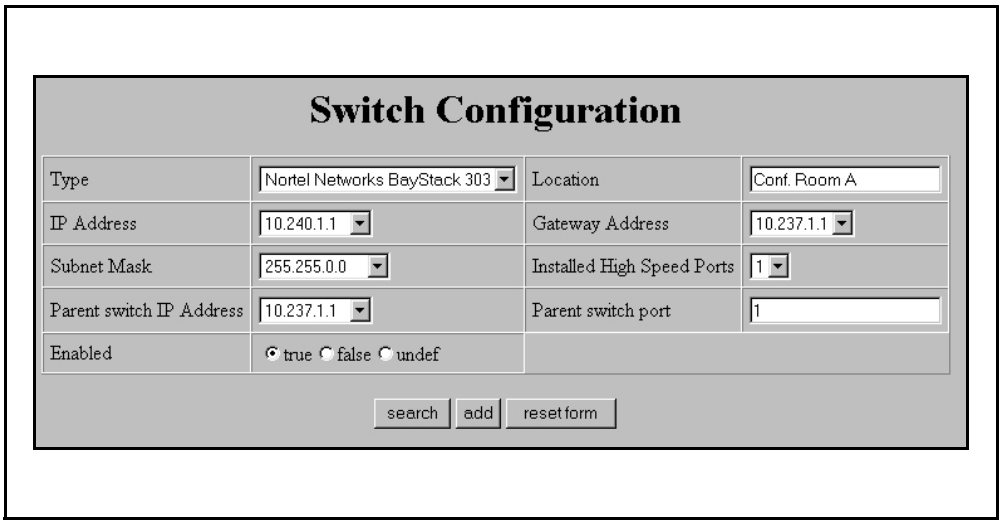
Figure 7-4
Switch Address Configuration dialog

—continued—

Procedure 7-1 (continued)
Provisioning the Ethernet-VBN switch and port database

Step	Action
4	In the **Ethernet Switch and Port Provisioning** section, select Add/Search Switch Information.
5	Select a switch IP address, and click the edit link or the Search button to launch the **Switch Configuration** dialog.
6	In the **Switch Configuration** dialog, provision the IP address as the "BayStack 303" or "Cisco 2900XL" switch. An example configuration is shown in Figure 7-5. Note the following about the example Ethernet-VBN switch configuration in Figure 7-5: • The "Parent switch IP address" is identical to the "Gateway Address." This means that this switch is the "highest" Ethernet-VBN switch in the hierarchy because its parent switch is the Network Services System, which also seerves as the gateway for the Ethernet-VBN system. • The "Parent switch port" is (and must be) "1" because the parent port is the ETH 1 port of the YWS. • The "Enabled" field must be set to "true" for the switch to function.

Figure 7-5
Ethernet-VBN example switch configuration

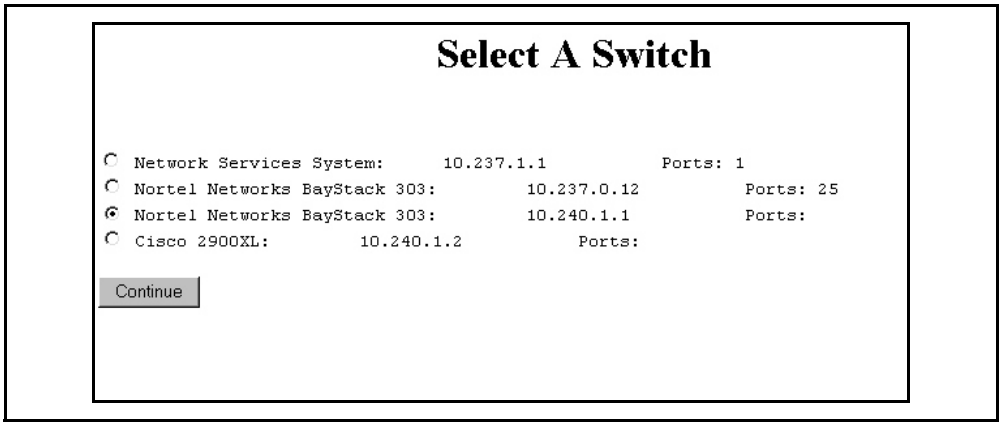


—continued—

Procedure 7-1 (continued)
Provisioning the Ethernet-VBN switch and port database

Step	Action
7	In the **Ethernet Switch and Port Provisioning** section, select Add Ports to launch the **Select A Switch** dialog as shown in Figure 7-6.

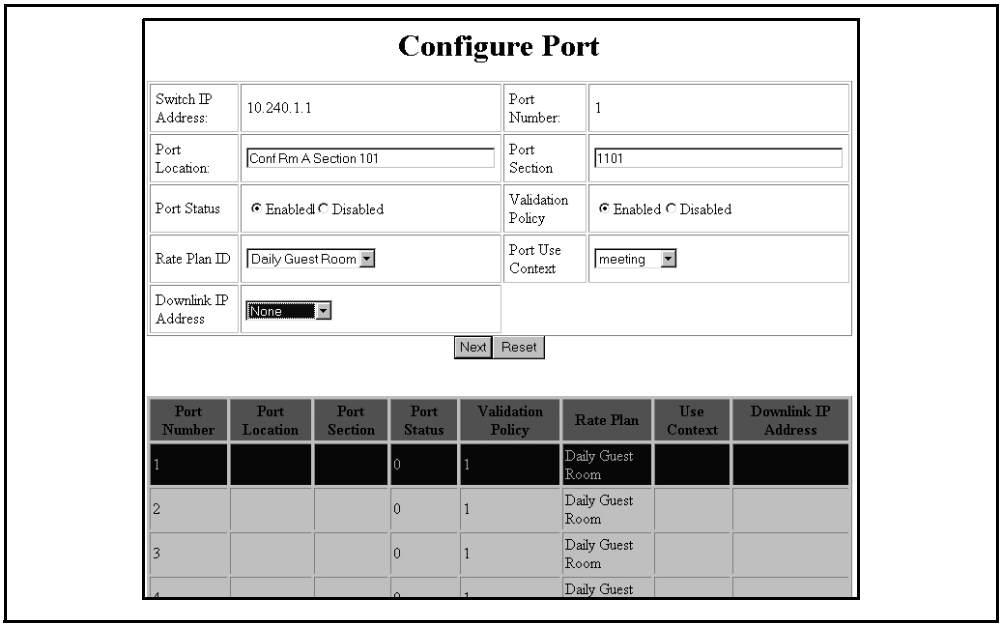
Figure 7-6
Add Ports / Select A Switch dialog


Select A Switch
Network Services System: 10.237.1.1 Ports: 1
Nortel Networks BayStack 303: 10.237.0.12 Ports: 25
Nortel Networks BayStack 303: 10.240.1.1 Ports:
Cisco 2900XL: 10.240.1.2 Ports:
Continue

8 Select the Ethernet-VBN switch being provisioned and click Continue.

*The **Configure Port** dialog is displayed with all ports added for the switch. Figure 7-7 shows an example with data entered but not submited for port 1.*

Figure 7-7
Configure Port dialog example / Ethernet-VBN

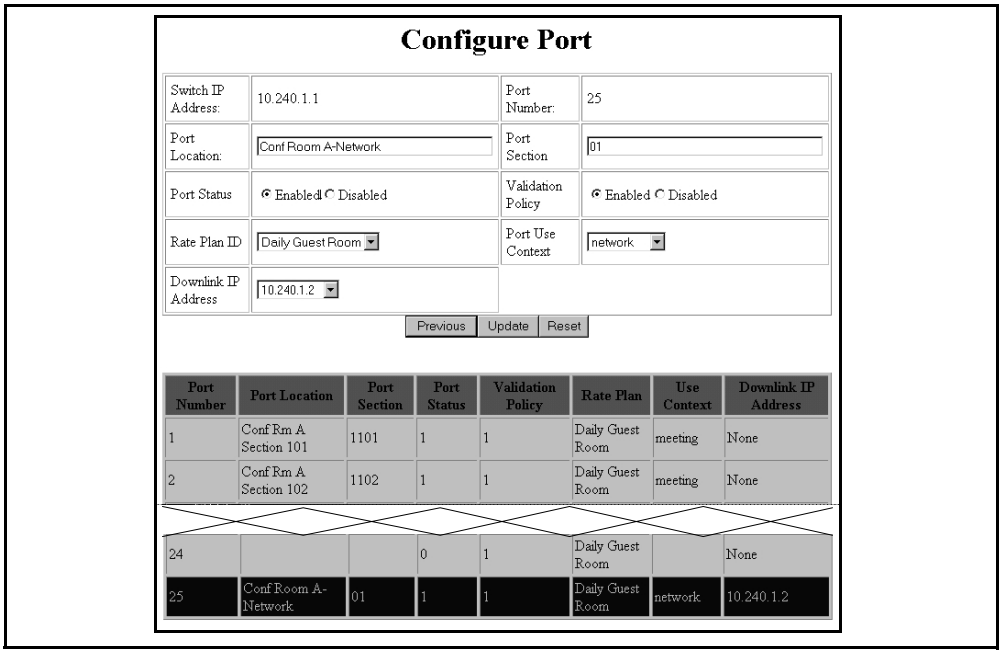


—continued—

Procedure 7-1 (continued)
Provisioning the Ethernet-VBN switch and port database

Step	Action
	Note the following about the example port configuration is shown in Figure 7-7 on page 7-12: • The "Port Status" field must be enabled for the port to function. • The "Validation Policy" must be enabled to ensure that users have to authenticate themselves to use the service. • The "Port Use Context" for "downlink" ports should be set to "Network." • YesWare supports Ethernet-VBN switches with a total of 24 standard ports and one or two auxiliary or high-speed ports.
9	Enter the required settings for port 1 and click "Next." The system commits the settings and moves down the list to port 2. Repeat this step for all ports being provisioned. The system will automatically move up or down the port list to the adjacent port each time the Next or Previous button is clicked.
10	If this switch connects to another switch lower in the Ethernet-VBN hierarchy, provision the port that is used as the downlink connection. Figure 7-7 shows an example of a downlink port configuration.

Figure 7-8
Configure Port dialog example / downlink port configuration


Configure Port
Switch IP Address: 10.240.1.1
Port Number: 25
Port Location: Conf Room A-Network
Port Section 01
Port Status Enabled Disabled
Validation Policy Enabled Disabled
Rate Plan ID Daily Guest Room
Port Use Context network
Downlink IP Address 10.240.1.2
Previous Update Reset
Port Number | Port Location | Port Section | Port Status | Validation Policy | Rate Plan | Use Context | Downlink IP Address
1 | Conf Rm A Section 101 | 1101 | 1 | 1 | Daily Guest Room | meeting | None
2 | Conf Rm A Section 102 | 1102 | 1 | 1 | Daily Guest Room | meeting | None
24 | | | 0 | 1 | Daily Guest Room | | None
25 | Conf Room A-Network | 01 | 1 | 1 | Daily Guest Room | network | 10.240.1.2

STOP

You have completed this task.

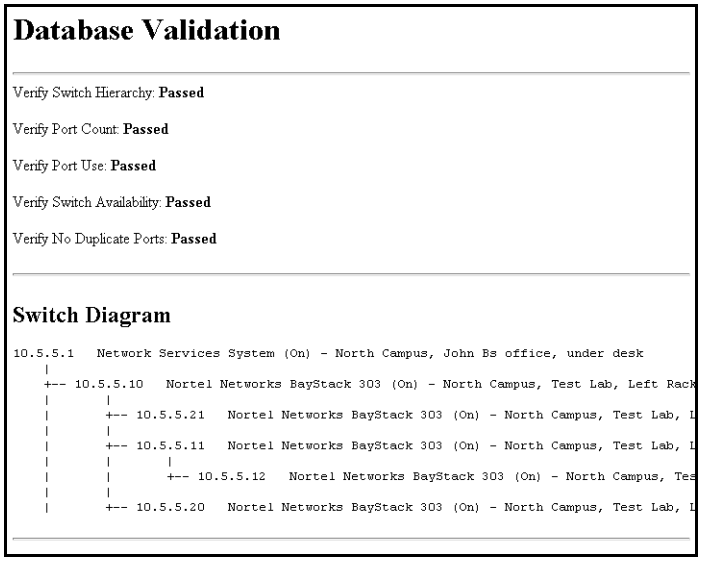
Procedure 7-2
Verifying Ethernet-VBN Architecture

After you configure all the ports for a switch, use the following procedure to quickly validate the YesWare configuration database and verify the switches and ports are provisioned in the correct hierarchy. This function presents the verification results and generates a line illustration Switch Diagram of the provisioned system architecture.

Action

Step	Action
1	From the YesWare Main Menu, choose **NSS Maintenance**. *The NSS Maintenance menu appears.*
2	Click **Verify Network Architecture**. *The Database Validation screen appears as shown below.*

Figure 7-9
Database Validation screen


Database Validation
Verify Switch Hierarchy: Passed
Verify Port Count: Passed
Verify Port Use: Passed
Verify Switch Availability: Passed
Verify No Duplicate Ports: Passed
Switch Diagram
10.5.5.1 Network Services System (On) - North Campus, John Bs office, under desk
+-- 10.5.5.10 Nortel Networks BayStack 303 (On) - North Campus, Test Lab, Left Rack
+-- 10.5.5.21 Nortel Networks BayStack 303 (On) - North Campus, Test Lab,
+-- 10.5.5.11 Nortel Networks BayStack 303 (On) - North Campus, Test Lab,
+-- 10.5.5.12 Nortel Networks BayStack 303 (On) - North Campus, Tes
+-- 10.5.5.20 Nortel Networks BayStack 303 (On) - North Campus, Test Lab,

—continued—

Procedure 7-2 (continued)
Verifying the Network Architecture

The Database Validation screen presents the results of the verification for the YesWare Ethernet switch and port settings shown in Table 7-5.

Table 7-5

Validation Item	Description
Switch hierarchy	Displays the results (passed or failed) of the switch hierarchy verification. Switch hierarchy verification failure can result from a variety of reasons. The two primary causes of failure include provisioning an upstream switch as a downlink, and provisioning an Ethernet switch on the YesWare Server subnet upstream from the YesWare Server.
Port count	Displays the results (passed or failed) of the port count verification.
Port use context	Displays the results (passed or failed) of the port use verification. Port use verification failure is caused by mis-provisioning the Port Use Context field of the Port Configuration dialog.
Switch availability	Displays the results (passed or failed) of the switch availability verification. Switch availability verification failure indicates a provisioned switch is not responding.
Port duplication	Displays the results (passed or failed) of the duplicate ports verification. Duplicate ports verification failure indicates two or more ports have identical configurations.

At the bottom of the screen, the Switch Diagram of the provisioned system architecture shows the relationship between different IP addresses on the YesWare network with a description of the address, the status, and location of the ports.

Note: If you verify the system architecture after provisioning each switch in the hierarchy, you may encounter errors resulting from downlink switches that have not been defined yet. Continue configuring switches and their associated ports until the hierarchy is complete and no errors are encountered.

If any errors are encountered, no network traffic will pass.

You have completed this task.

Procedure 7-3
Testing the Ethernet-VBN system Configuration

After you have provisioned all ports for a switch and have verified the system architecture, use the following procedure to test the configuration of each port.

Requirements

Testing the YesWare Ethernet configuration requires the following:

- Installed LAN with Internet access
- Ethernet switches are installed
- Switches and ports are provisioned
- Network architecture has been verified (see previous procedure)
- Ethernet-enabled PC with appropriate connection and cabling for 10Base-T service
- Internet browser (release 4.0)

Action

Step	Action
1	Select the port to be tested and record the port status and validation policy provisioned settings (enabled/disabled).
2	Connect an Ethernet-enabled computer to the provisioned port.
3	Launch the Internet browser, and attempt to access the Internet by entering a valid IP address or a Domain Name System (DNS) host name such as http://www.elastic.com.

—continued—

Procedure 7-3 (continued)
Testing the Ethernet-VBN system Configuration

Step	Action
4	Verify the port performs according to its provisioned settings as in the following examples: • If the port is provisioned as “enabled” status, verify it allows access to the Internet. • If the port is provisioned as “disabled” status, verify it does not allow access to the Internet. • If **Validation Policy** is enabled and the **Port Use Context** is set to “Guest Room,” the system should display both “Authorization Code Required” and “Acceptance Required” (bill-to-room) options to the end-user. • If **Validation Policy** is enabled and the **Port Use Context** is set to “Meeting” or “Public,” the system should display an “Authorization Code Required” option only. *Now you are ready to configure the next switch and its associated ports.*

You have completed this task.

Procedure 7-4
Viewing Real-Time Switch Status

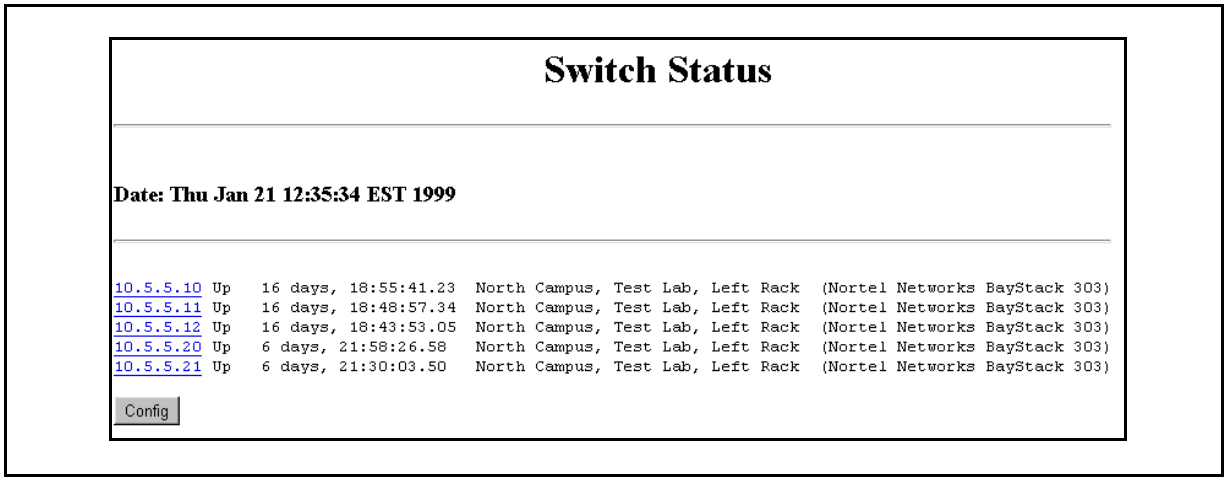
This function displays the status of VBN switches in the YesWare database listed by IP address. Using this function, you can view the "up/down" status of all switches in the database, view packet traffic and status data for all the ports on an individual switch, and configure the time interval used to refresh switch status data.

Note: If a switch or port has gone down, it may have a problem or it may not have been enabled properly when it was provisioned. Choose the View/Edit Switch Table or View/Edit Port Table link from the Port Manager. Select the switch/port to edit and verify the switch/port status is "Enabled".in the configuration dialog.

Action

Step	Action
1	From the YesWare Main Menu, choose *NSS Maintenance*. *The NSS Maintenance menu appears.*
2	Click the View Real-Time Switch Status link in the **System Maintenance** section. *The Switch Status dialog appears with switches listed by IP address. The Switch Status dialog displays the switch status (up or down), the number of days the switch has had the current status, the switch status was last changed, and the switch location and type.*

Figure 7-10
Switch Status dialog


Switch Status
Date: Thu Jan 21 12:35:34 EST 1999
10.5.5.10 Up 16 days, 18:55:41.23 North Campus, Test Lab, Left Rack (Nortel Networks BayStack 303)
10.5.5.11 Up 16 days, 18:48:57.34 North Campus, Test Lab, Left Rack (Nortel Networks BayStack 303)
10.5.5.12 Up 16 days, 18:43:53.05 North Campus, Test Lab, Left Rack (Nortel Networks BayStack 303)
10.5.5.20 Up 6 days, 21:58:26.58 North Campus, Test Lab, Left Rack (Nortel Networks BayStack 303)
10.5.5.21 Up 6 days, 21:30:03.50 North Campus, Test Lab, Left Rack (Nortel Networks BayStack 303)
Config

—continued—

Procedure 7-4 (continued)
Viewing Real-Time Switch Status

3 To view the port-by-port status of an individual switch, click the underlined IP for the switch. The system displays the status of each port on that switch, including packet traffic data. Figure 7-11 shows an example of this screen.

Figure 7-11
Port status on a VBN switch

VBN Switch Status for 10.237.0.12

Date: Tue Jul 11 11:17:25 EDT 2000

Switch: 10.237.0.12 (Nortel Networks BayStack 303) Ports: 26

Note

Cisco switches have a VLAN port 1, which is not in the database records.
Cisco 2900 XL switches will appear with a port number one higher (+1) than actual.

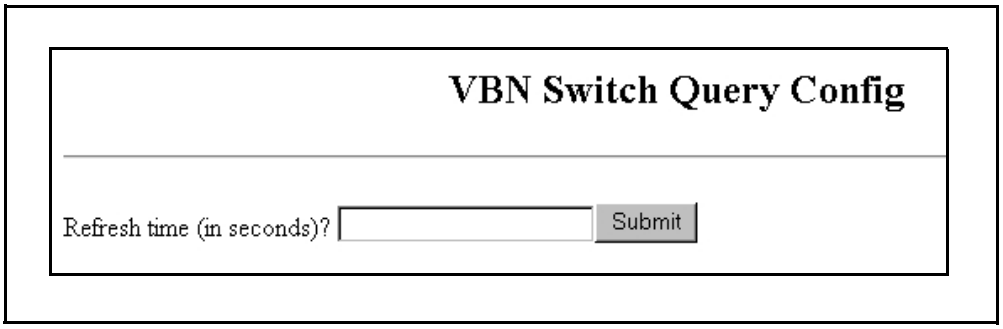
Port Num	Port Status	Port User	Bytes RX	Bytes TX	Err Packets
1	up(1)	down(2)	102K	389K	5
2	up(1)	down(2)	0	0	1
3	up(1)	down(2)	0	0	1
4	up(1)	down(2)	0	0	1
5	up(1)	down(2)	2K	5K	1
6	up(1)	down(2)	0	0	1
7	up(1)	down(2)	293K	3M	5
8	up(1)	down(2)	23K	395K	3
9	up(1)	down(2)	0	0	1
10	up(1)	up(1)	122K	601K	6
11	up(1)	down(2)	11K	449K	0
12	up(1)	down(2)	1M	13M	4
13	up(1)	down(2)	0	256	2
14	up(1)	down(2)	0	0	1
15	up(1)	down(2)	0	0	1
16	up(1)	down(2)	9K	42K	1
17	up(1)	down(2)	2K	9K	1
18	up(1)	down(2)	0	0	1
19	up(1)	down(2)	0	0	1
20	up(1)	down(2)	0	0	1
21	up(1)	down(2)	2K	6K	3
22	up(1)	down(2)	0	0	1
23	up(1)	down(2)	0	0	1
24	up(1)	down(2)	0	0	1
25	up(1)	up(1)	8M	18M	13
26	up(1)	down(2)	0	0	1

—continued—

Procedure 7-4 (continued)
Viewing Real-Time Switch Status

Step	Action
4	To configure the refresh time for updating switch status, click the **Config** button, and enter the refresh time (in seconds) on the VBN Switch Query Config screen. Figure 7-11 shows an example of this screen.

Figure 7-12
VBN Switch Query Config dialog



STOP

You have completed this task.

Ethernet-VBN switch maintenance

YesWare has the following maintenance capabilities that can be used to maintain Ethernet-VBN switches.

Procedure	Task	See
7-5	Upgrading Ethernet-VBN switch firmware using TFTP and HTTP Proxy	page 7-22
7-6	Using the Refresh Switches function	page 7-25
7-7	Using the View Database function	page 7-26
7-8	Testing Ethernet-VBN ports	page 7-27

Procedure 7-5
Upgrading Ethernet-VBN switch firmware using TFTP and HTTP Proxy

YesWare allows system administrators to upgrade Ethernet-VBN switch firmware using the switches' web-based graphical user interface (GUI). This procedure describes how to do this using the *InterProxy* module's TFTP and HTTP Proxy capabilities.

Requirements

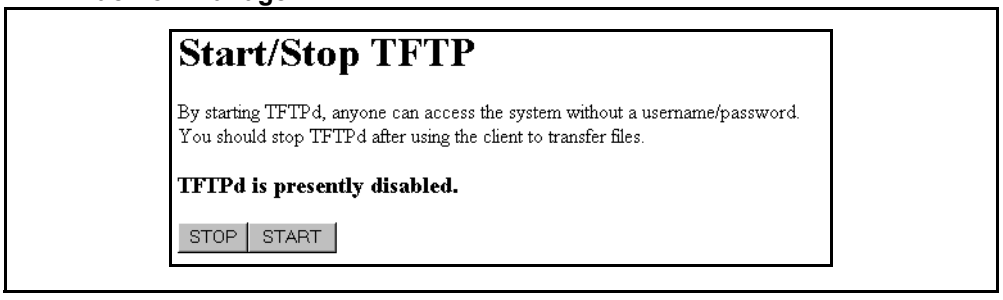
This procedure requires the following:

- Ethernet-VBN switches installed and provisioned as described in this document
- switch firmware load being used to upgrade the switches
- PC with web browser and network access to the YWS
- administrator- or manager-level password for the YWS
- basic knowledge of trivial file transfer protocol (TFTP) and web-proxy concepts

Action

Step	Action
1	Browse to the IP address of the YWS and login using either an admin or the manager user-name and password. Select *InterProxy* from the YesWare main menu.
2	Click the TFTP Daemon Manager function and start the TFTPd by clicking the "START" button. See Figure 7-13.

Figure 7-13
TFTP Daemon Manager


Start/Stop TFTP
By starting TFTPd, anyone can access the system without a username/password.
You should stop TFTPd after using the client to transfer files.
TFTPd is presently disabled.
STOP
START

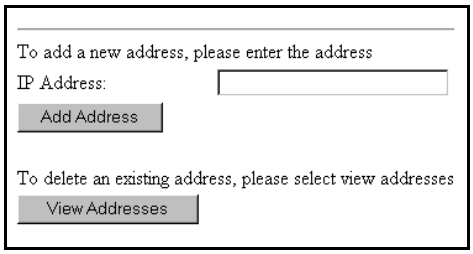
3	Using a TFTP client and the default TFTP port, transfer the switch firmware upgrade load to the YWS. After the firmware has been transferred to the YWS, return to the TFTP Daemon Manager and stop the TFTPd.

—continued—

Procedure 7-5 (continued)
Upgrading Ethernet-VBN switch firmware using TFTP and HTTP Proxy

Step	Action
4	Return to the InterProxy main page and select the Configure Proxy IP Address function.
5	In the "IP Address" field, enter the IP address of the PC performing the upgrade and click the "Add Address" button. See Figure 7-14.

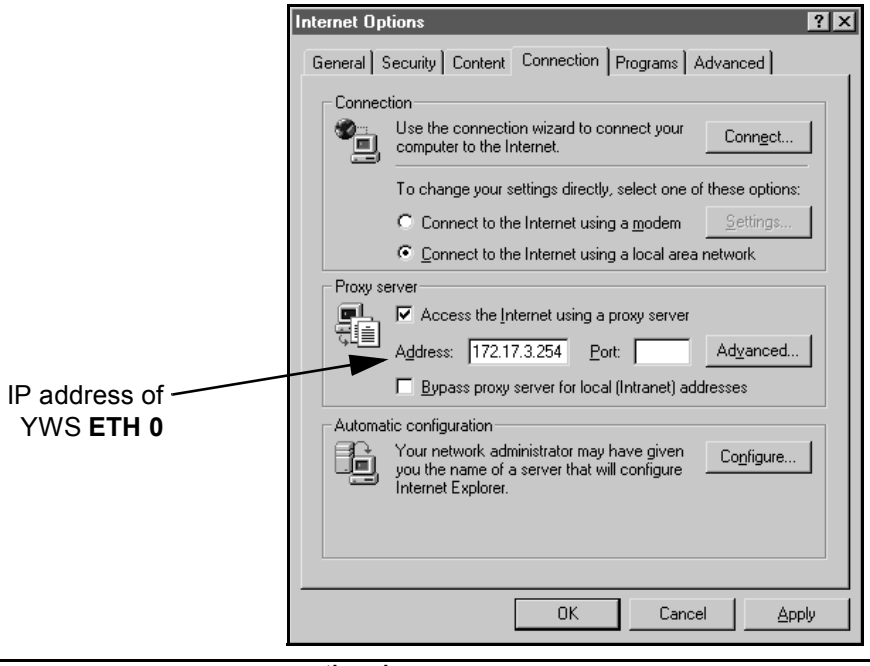
Figure 7-14
HTTP Proxy IP address


To add a new address, please enter the address
IP Address:
Add Address
To delete an existing address, please select view addresses
View Addresses

6 Configure the web-browser on the PC performing the upgrade to access the Internet using a proxy server, with the YWS **ETH 0** interface serving as the proxy server. Leave the "Port" field blank.

Figure 7-16 shows a YWS with an IP address of **172.17.3.254** configured to serve as the proxy server.

Figure 7-15
YWS configured as proxy server for HTTP Proxy



—continued—

Procedure 7-5 (continued)
Upgrading Ethernet-VBN switch firmware using TFTP and HTTP Proxy

Step	Action
7	Apply the changes to the browser and close and re-open the browser. You should now be able to browse to the Ethernet-VBN switch IP addresses on the **ETH 1** side of the YWS.
8	Browse to the IP address of the Ethernet-VBN switch to receive the firmware upgrade.
9	Upgrade the switch firmware with the new load using the switch's web interface according to the procedure required by the switch manufacturer.

You have completed this task.

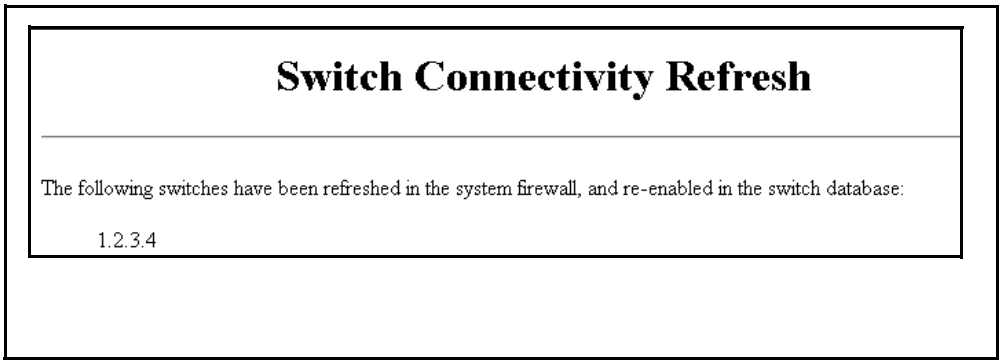
Procedure 7-6
Using the Refresh Switches function

Use this function to re-enable all switches connected to the YWS. The Refresh Switches function is located in the **System Tools** section of *Port Manager*.

Action

Step	Action
1	Click the Refresh Switches link to initiate the "Switch Connectivity Refresh" process. This process refreshes all switches in the system firewall and re-enables all switches in the database. Figure 7-16 shows the "Switch Connectivity Refresh" dialog. All switches found in the database are listed by IP address in this dialog.

Figure 7-16
Switch Connectivity Refresh


Switch Connectivity Refresh
The following switches have been refreshed in the system firewall, and re-enabled in the switch database:
1.2.3.4

STOP

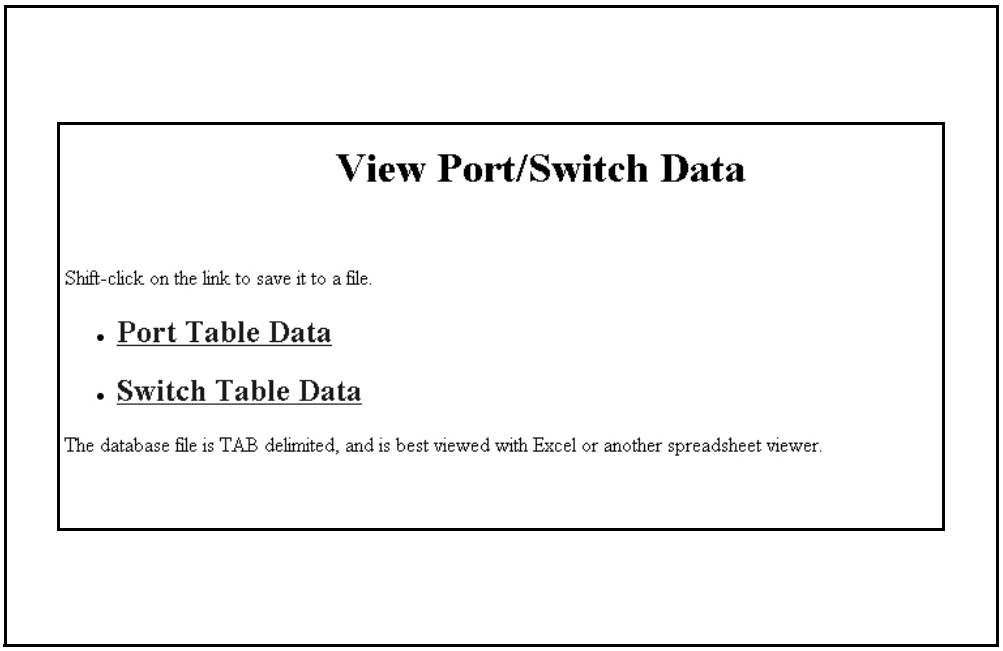
You have completed this task.

Procedure 7-7
Using the View Database function

Use this function to view, in text form, the system port and switch table databases. Clicking on the Port Table Data and Switch Table Data links displays these database tables as TAB delimited files. Shift-click on the links to save either one to a file. The TAB delimited file format can be viewed with Excel or another spreadsheet viewer.

Figure 7-17 shows the "View Port/Switch Data" dialog.

Figure 7-17
View Port/Switch Data dialog


View Port/Switch Data
Shift-click on the link to save it to a file.
Port Table Data
Switch Table Data
The database file is TAB delimited, and is best viewed with Excel or another spreadsheet viewer.

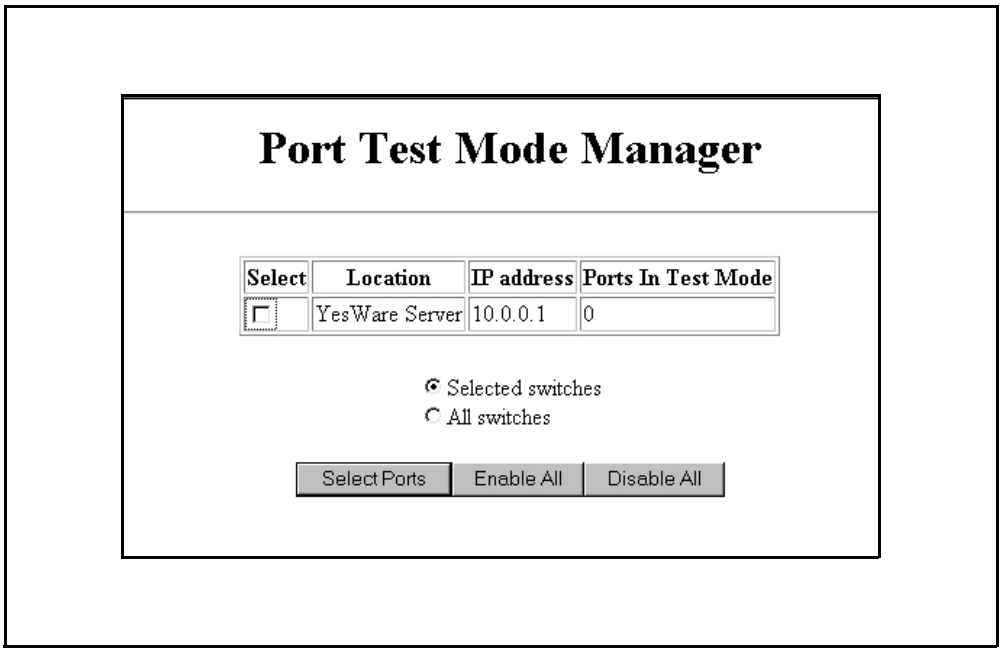
STOP

You have completed this task.

Procedure 7-8
Testing Ethernet-VBN ports

Use this function to set/view the test mode for system ports Figure 7-18 shows the "Port Test Mode Manager" dialog.

Figure 7-18
Port Test Mode Manager dialog



View Port Test Results

Use this function to view logs generated as a result of Port Tests.

Port Test

Use this function to execute a test on a port. Ports must be in test mode before a test can be executed.

STOP

You have completed this task.

YesWare service billing

This chapter describes how to configure the *Billing Manager* module and implement the Guest Room Billing, Credit Card Billing, and Authorization Code Billing methods.

> ***Note:*** Conference Room Billing is provisioned and managed using the *Conference Scheduler* module and is covered in Chapter 11.

Chapter topic list

This chapter includes the following topics.

Topic	See
Billing Manager feature description	page 8-2
Guest Room Billing	page 8-3
Credit Card Billing	page 8-7
Authorization Code Billing	page 8-10
YesWare billing record management capabilities	page 8-13

Chapter task list

This chapter includes the following tasks.

Procedure	Task	See
8-1	Configuring Guest Room Billing	page 8-4
8-2	Configuring Credit-Card Billing	page 8-8
8-3	Generating Authorization Codes	page 8-11
8-4	Retrieving and deleting SDR logs using ftp	page 8-15
8-5	Creating billing record reports	page 8-17

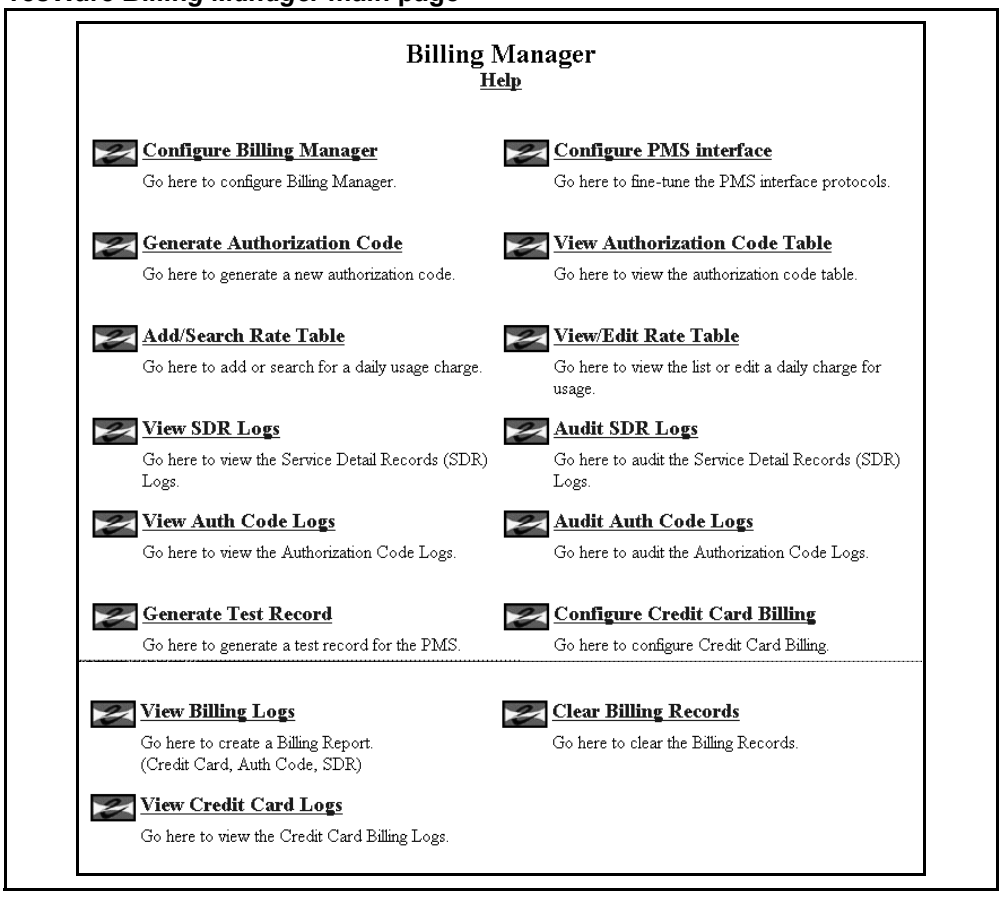
Billing Manager feature description

The *Billing Manager* module is used to provision and manage Guest Room Billing, Credit Card Billing, and Authorization Code Billing on the YWS. The *Billing Manager* module is used for the following functions for each of these billing methods:

- **Guest Room Billing:** configure guest room Check-In/Check-Out times, rates, and the interface to the Property Management System (PMS)
- **Credit-Card Billing:** configure credit-card billing with the **Authorize.Net** Internet credit-card processing service
- **Authorization Code Billing:** generate and manage Authorization Codes for visitors
- **Reporting and log retrieval:** create and retrieve billing logs and reports for these three billing types

The rest of this chapter describes how to configure the YWS to use these *Billing Manager* functions. Figure 8-1 shows the *Billing Manager* main page.

Figure 8-1
YesWare *Billing Manager* main page


Billing Manager
Help
Configure Billing Manager
Go here to configure Billing Manager.
Configure PMS interface
Go here to fine-tune the PMS interface protocols.
Generate Authorization Code
Go here to generate a new authorization code.
View Authorization Code Table
Go here to view the authorization code table.
Add/Search Rate Table
Go here to add or search for a daily usage charge.
View/Edit Rate Table
Go here to view the list or edit a daily charge for usage.
View SDR Logs
Go here to view the Service Detail Records (SDR) Logs.
Audit SDR Logs
Go here to audit the Service Detail Records (SDR) Logs.
View Auth Code Logs
Go here to view the Authorization Code Logs.
Audit Auth Code Logs
Go here to audit the Authorization Code Logs.
Generate Test Record
Go here to generate a test record for the PMS.
Configure Credit Card Billing
Go here to configure Credit Card Billing.
View Billing Logs
Go here to create a Billing Report. (Credit Card, Auth Code, SDR)
Clear Billing Records
Go here to clear the Billing Records.
View Credit Card Logs
Go here to view the Credit Card Billing Logs.

Guest Room Billing

To configure the *Billing Manager* to use Guest Room Billing, the YesWare administrator must complete the following tasks:

- Provision YesWare ports with the **guest** Port Use Context as described earlier in this document
- Configuring the guest room billing protocol and time settings
- Configure the guest room billing rate(s) and assign the rate(s) to the YesWare **guest** room ports
- Integrate the YWS into the facility PMS (optional)

The following sections and Procedure 8-1 on page 8-4 describe the requirements and procedure to configure the guest room billing protocol, time settings, and billing rate.

Billing protocol and time settings

The billing protocol and time settings used for YesWare Guest Room Billing are configured using the **Configure Billing Manager** dialog. This dialog is launched by clicking on the Configure Billing Manager function link.

Billing rate configuration

The billing protocol and time settings used for YesWare Guest Room Billing are configured using the **Rate Configuration** dialog. This dialog is launched by clicking on the Add/Search Rate Table function link. The rate configuration(s) assigned here must be provisioned to Ethernet-VBN switch ports or EtherLoop Enhanced Modem Billing ports in the "Rate Plan ID" field found in the port configuration dialogs of the *Port Manager* module.

Guest Room Billing and PMS integration

For the requirements and procedures to integrate the YesWare guest rooms into a facility PMS, see Chapter 9, “YesWare PMS integration” after completing the Procedure 8-1 on page 8-4.

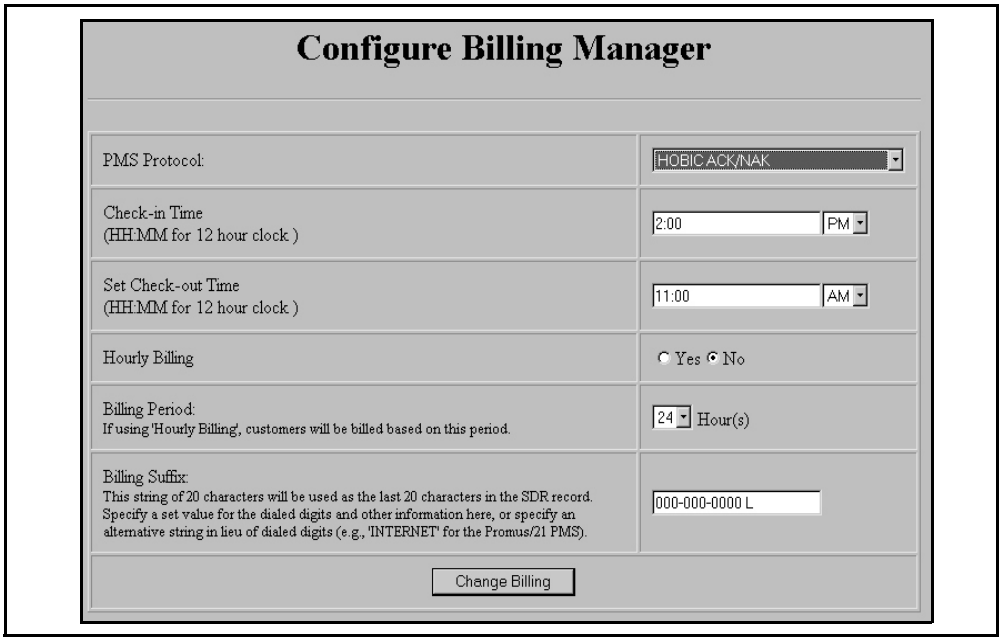
Procedure 8-1
Configuring Guest Room Billing

Use this procedure to select and configure the billing system protocol and rate charges as described in “Guest Room Billing” on page 8-3.

Action

Step	Action
1	From the YesWare Main Menu, select the *Billing Manager* module.
2	Click the Configure Billing Manager function link to launch the **Configure Billing Manager** dialog. Figure 8-2 shows the default dialog.

Figure 8-2
Configure Billing Manager dialog


Configure Billing Manager
PMS Protocol:
HOBIC ACK/NAK
Check-in Time
(HH:MM for 12 hour clock)
2:00
PM
Set Check-out Time
(HH:MM for 12 hour clock)
11:00
AM
Hourly Billing
Yes
No
Billing Period:
If using 'Hourly Billing', customers will be billed based on this period.
24
Hour(s)
Billing Suffix:
This string of 20 characters will be used as the last 20 characters in the SDR record.
Specify a set value for the dialed digits and other information here, or specify an
alternative string in lieu of dialed digits (e.g., 'INTERNET' for the Promus/21 PMS).
000-000-0000 L
Change Billing

—continued—

Procedure 8-1 (continued)
Configuring Guest Room Billing

Step	Action

3 Complete the Configure Billing Manager dialog according to the specifications listed in Table 8-1.

Table 8-1
Configure Billing Manager dialog settings

Setting	Specification
PMS Protocol	Select the protocol used to interface with the PMS, if applicable. See Chapter 9 for more information.
Check-in Time	Select HH:MM for 12 hour clock from the pull-down list. It is recommended that the Check-in and Check-out times be set to identical values.
Set Check-out Time	Select HH:MM for 12 hour clock from the pull-down list. It is recommended that the Check-in and Check-out times be set to identical values.
Hourly Billing	Select "Yes" or "No." Hourly Billing systems bill YesWare visitors on the basis of system access for a selected number of hours, not usage on an hour-by-hour basis. For example, if the **"Billing Period"** field below is set to 8 hours, a visitor who uses only 4 hours during the billing period will be billed for a full 8-hour period of access, not 4 hours of use.
Billing Period	Select the time period (1-24 hours) used for Hourly Billing. YesWare visitors receive access privileges for the maximum number of hours in the period selected.
Billing Suffix	This string of 20 characters will be used as the last 20 characters in the service data record (SDR). Specify a set value for the dialed digits and other information here, or specify an alternative string in lieu of dialed digits (e.g., 'INTERNET' for the Promus/21 PMS).

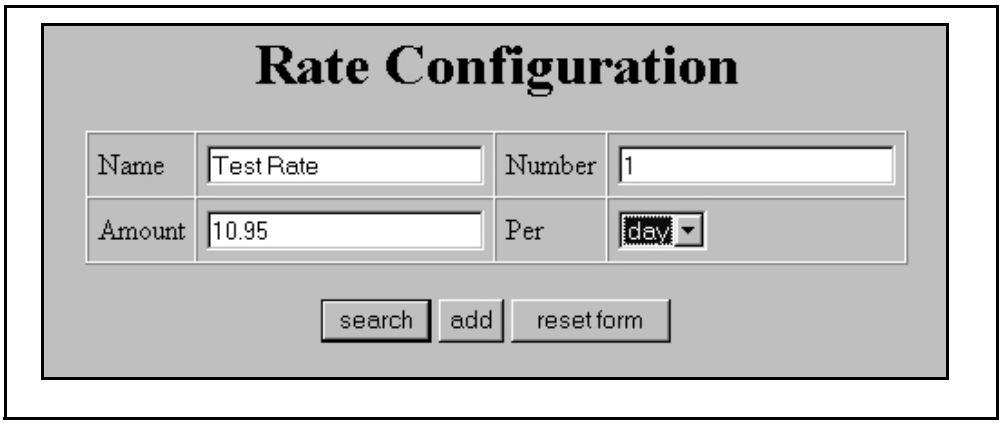
4 Click the **Change Billing** button when complete. The system displays the new billing configuration settings and asks for confirmation.

—continued—

Procedure 8-1 (continued)
Configuring Guest Room Billing

Step	Action
5	Click the **Yes** button to accept the changes. (Clicking **No** will discard the changes and the system will return to the **Configure Billing Manager** dialog).
6	When the system displays "The following settings have been commited:", click the Back To Billing Manager link.
7	Click Add/Search Rate Table to launch the **Rate Configuration** dialog. Figure 8-3 shows an example of this dialog.

Figure 8-3
Rate Configuration dialog



8	Enter following settings in the Rate Configuration dialog: • name of the rate configuration • number assigned to the rate configuration • rate amount per day in "0.00" format
9	Click the "**add"** button to add the rate configuration to the YesWare database.
10	Assign the rate(s) configured here to the Ethernet-VBN and Enhanced Modem Billing **guest** room ports according to facility requirements using the *Port Manager* module.
11	See “YesWare billing record management capabilities” on page 8-13 for YesWare’s Guest Room Billing logging and reporting management functions.

STOP

You have completed this task.

Credit Card Billing

To configure the *Billing Manager* to use Credit Card Billing, the YesWare administrator must complete the following tasks:

- Provision YesWare ports with the **credit** Port Use Context
- obtain a merchant account with the **Authorize.Net** Internet credit-card processing company
- Configure Credit Card Billing using the *Billing Manager* module

The following sections describes the requirements to set up Credit Card Billing in the YesWare system. Procedure 8-2 on page 8-8 contains the steps required to configure Credit Card Billing in the *Billing Manager* module.

Credit Port Use Context assignment

See "VBN billing methods and the Port Use Context" on page 1-15 for information on assigning Port Use Contexts to the credit-card ports.

Authorize.Net merchant account

The Authorize.Net Corporation develops, markets, and sells **Authorize.Net™**, a line of products and services that provide comprehensive solutions for authorizing, processing, and managing credit card and electronic check transactions over the Internet. To get started with **Authorize.Net™**, contact an **Authorize.Net™** Agent to apply for a credit card processing account. Visit the Authorize.Net Corporation web site at **http://www.authorizenet.com/**. and make arrangements to set up a merchant credit-card processing account.

Account approval typically takes approximately five days. After account approval, the **Authorize.Net™**Agent will assign a user ID and password and provide training on the system.

Credit Card Billing configuration

The *Billing Manager* Configure Credit Card Billing function is used to enter the user ID and password obtained from the **Authorize.Net™** Agent into the YesWare database. This function contains a built-in link from the YWS to the **Authorize.Net™** system server.

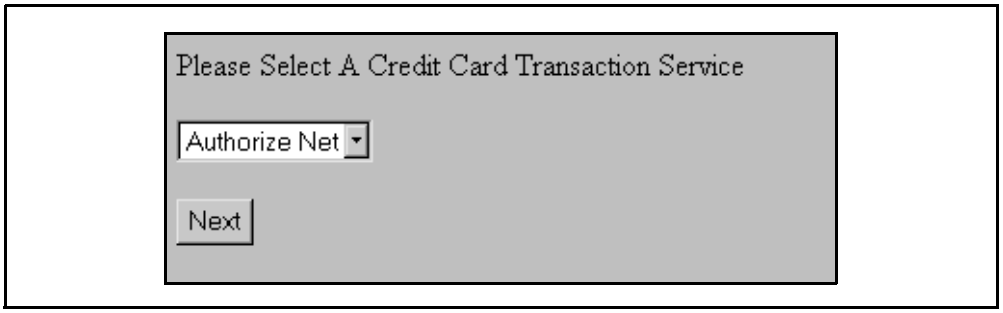
Procedure 8-2
Configuring Credit-Card Billing

Use this procedure to configure Credit Card Billing in the YesWare *Billing Manager* module.

Action

Step	Action
1	From the YesWare Main Menu, select the *Billing Manager* module.
2	Click the Configure Credit Card Billing function link to launch the credit-card service selection dialog.
3	Verify that **Authorize.Net** is the service selected and click the "Next" button. See Figure 8-4.

Figure 8-4
Credit-card service selection dialog

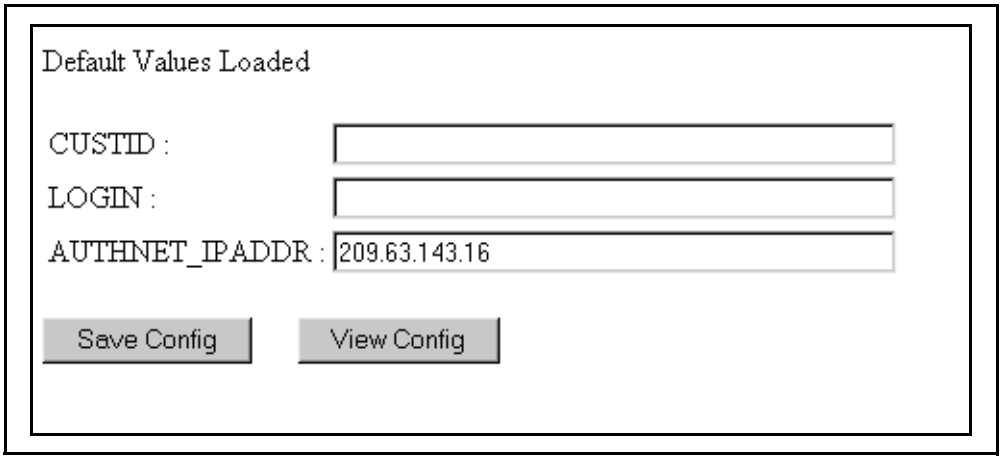


—continued—

Procedure 8-2 (continued)
Configuring Credit-Card Billing

Step	Action
4	Figure 8-5 shows the default dialog used to configure the YWS credit card billing account. Enter the user ID assigned to the account by Authorize.Net in the **"CUSTID:"** field of this dialog. Enter the account password in the **"LOGIN:"** field. **CAUTION: Do NOT modify the "AUTHNET_IPADDR:" field.**

Figure 8-5
Default Credit-Card Billing configuration dialog



5	Click the "Save Config" button to configure YWS database to use the **Authorize.Net™** credit-card billing account. YesWare visitors using ports provisioned with the **credit** Port Use Context will now be processed through this **Authorize.Net™** account.
6	See “YesWare billing record management capabilities” on page 8-13 for YesWare’s Credit Card Billing logging and reporting management functions.

STOP

You have completed this task.

Authorization Code Billing

To configure the *Billing Manager* to use Authorization Code Billing, the YesWare administrator must complete the following tasks:

- Provision YesWare ports with the **meeting**, **public**, or **guest** Port Use Context
- generate and print duplicate hard-copy Authorization Codes

The following sections describes the requirements to use Authorization Code Billing in the YesWare system. Procedure 8-3 on page 8-11 contains the steps required generate Authorization Codes for use in YesWare systems.

Authorization Code duration and expiration

Authorization Codes are assigned a certain duration when they are generated, such as "5 days." In addition, Authoration Codes have an unconfigurable "freshness" period of 30 days in which the visitor can activate the code. Visitors can activate their Authorization Code at any time during the freshness period, but once activated, the code is only valid for the assigned duration.

For example, if a visitor purchases an Authorization Code with a duration of 5 days, the code's freshness period is 30 days plus the code duration of 5 days, or 35 days. The visitor can use the code at any time during the 35-day freshness period, but once activated, the visitor would still only receive the code's maximum of 5 contiguous days of system access.

Authorization Code Port Use Context assignment

See "VBN billing methods and the Port Use Context" on page 1-15 for information on assigning Port Use Contexts to use Authorization Codes.

Using Authorization Code Billing

Authorization Code Billing uses *Billing Manager's* Generate Authorization Code function to generate authorization codes for visitors to use in the YesWare system. In addition, *Billing Manager* maintains an Authorization Code table that lists all codes generated in the system and the status of the code (pending or activated).

The *Billing Manager* also module generates authorization code logs which can be used for recordkeeping. See "YesWare billing record management capabilities" on page 8-13 for more information about viewing authorization code logs and generating authorization code reports.

Procedure 8-3
Generating Authorization Codes

Use this procedure to procedure to generate the Authorization Codes given to the visitors paying for service on the YesWare system.

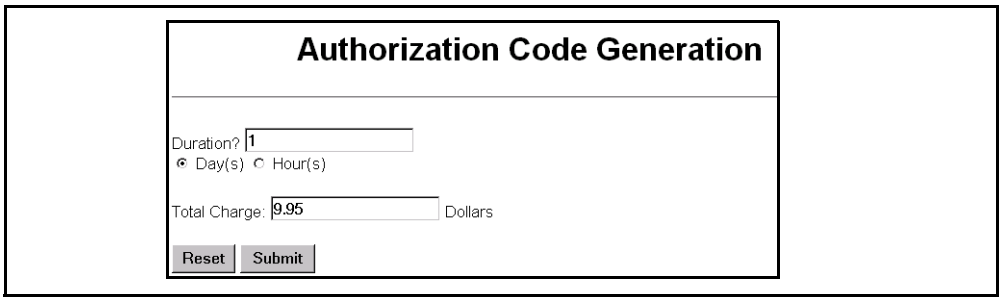
Requirement

The YesWare administrator or operator must know the rate charges and durations used according to the facility rate schedule requirements.

Action

Step	Action
1	From the YesWare main menu, choose **Billing Manager**. *The Billing Manager menu appears.*
2	Click the Generate Authorization Codes function link. The Authorization Code Generation dialog appears as shown in Figure 8-6.

Figure 8-6
Authorization Code Generation dialog



3	In the **Duration** field, enter the amount of time that the authorization code is to be active and click **Days** or **Hours** as the increment of time that the code is to be in effect. The entry in the Duration field must be an integer.

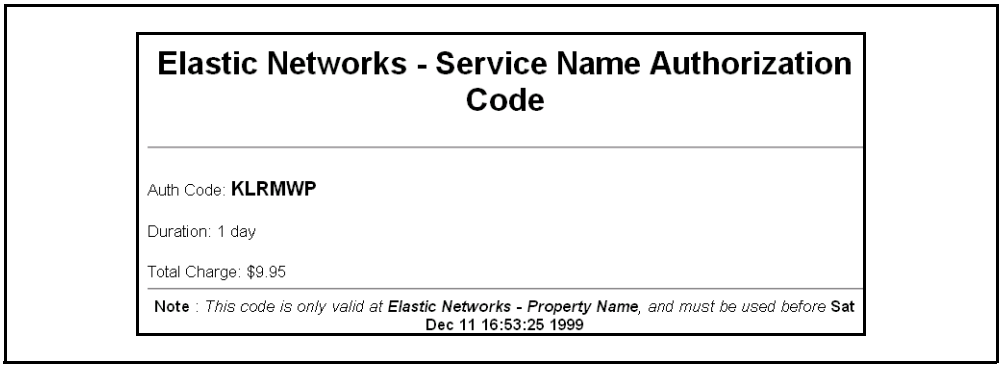
—continued—

Procedure 8-3 (continued)
Generating Authorization Codes

4 In the **Total Charge** field, enter the total charge billed to the Authorization Code. The entry in this field must be decimal to two places, with no dollar-sign.

5 Click **Submit** to enter the authorization code. A confirmation screen appears as shown below.

Figure 8-7
Auth Code confirmation screen


Elastic Networks - Service Name Authorization Code
Auth Code: KLRMWP
Duration: 1 day
Total Charge: $9.95
Note : This code is only valid at Elastic Networks - Property Name, and must be used before Sat Dec 11 16:53:25 1999

6 Print out two copies of this screen using the web-browser's Print function and give one copy to the YesWare visitor upon receipt of payment. Keep the second copy for facility records.

7 See "YesWare billing record management capabilities" on page 8-13 for information on using the logging and report management functions of YesWare's Authorization Code Billing.

STOP

You have completed this task.

YesWare billing record management capabilities

This section describes YesWare's capabilities to view and manage billing records generated by Guest Room Billing, Credit Card Billing, and Authorization Code Billing. Conference Room Billing records are managed using the *Conference Scheduler Module* as described in Chapter 11.

Table 8-2 lists the record management functions available in the *Billing Manager* module. The following sections describe all of the billing record management capabilities available for Guest Room Billing, Credit Card Billing, and Authorization Code Billing. .

Table 8-2
***Billing Manager* record management functions**

Billing Mgr Function	Billing Method	Description
Audit SDR Logs	Guest Room Billing	Retrieve any new SDR logs recorded by the **Guest Room Billing** ports provisioned on the YWS.
View SDR Logs	Guest Room Billing	View the details of the SDR logs recorded after the the Audit SDR Logs function is executed.
View Credit Card Logs	Credit Card Billing	View the Credit Card Billing transaction logs.
View Authorization Code Table	Authorization Code Billing	View the status of the Auth Codes generated on the YWS.
Audit Auth Code Logs	Authorization Code Billing	Retrieve any new Auth Code logs recorded by the YWS.
View Auth Code Logs	Authorization Code Billing	View the details of the Auth Codes generated on the YWS.
View Billing Logs	All three billing methods	Create and download reports for any or all of the three billing record logs (SDR logs, credit transaction logs, Auth Code logs).
Clear Billing Records	All three billing methods	Clear all billing record logs on the YWS.

Guest Room Billing record management

YesWare keeps Service Detail Record (SDR) logs for all ports provisioned on the YWS that use Guest Room Billing. SDR log details include the date/time the SDR log was created, PMS configuration data (see Chapter 9), and the fee charged for the service. The *Billing Manager* module contains functions to view and audit SDR logs.

In addition to the Billing Manager functions, YesWare supports file transfer protocol (***ftp***) access to retrieve and delete SDR logs on the YWS. Procedure 8-4 on page 8-15 describes the procedure for using ***ftp*** to retrieve and delete SDR logs on the YWS.

Credit Card Billing record management

YesWare keeps credit transaction logs for all ports provisioned on the YWS that use **Credit Card Billing**. This function can also be used to download and save the Credit Card Billing transaction logs in comma-delimited or tab-delimited formats.

Authorization Code Billing record management

YesWare keeps Auth Code logs for all the ports provisioned on the YWS that use Authorization Code Billing. Auth Code log details include the date/time the Auth Code was created, fee charged for the Auth Code, and date/time the Auth Code was used (activated).

Billing Manager also maintains an "Authorization Code Table" indicating the status of all Auth Codes in the system (pending, activated, or expired).

Billing record reports

Using the View Billing Logs function, the system administrator can create and download reports for any or all of the three billing record logs (SDR logs, credit transaction logs, Auth Code logs). Downloading and saving the billing reports can be done in comma-delimited or tab-delimited formats.

Procedure 8-4 on page 8-15 describes the steps required to create a billing record report.

Procedure 8-4
Retrieving and deleting SDR logs using *ftp*

Use this procedure to retrieve and delete SDR logs on the YWS using ftp. Some service-providers may want to automate this procedure using a custom software script/program.

Requirements

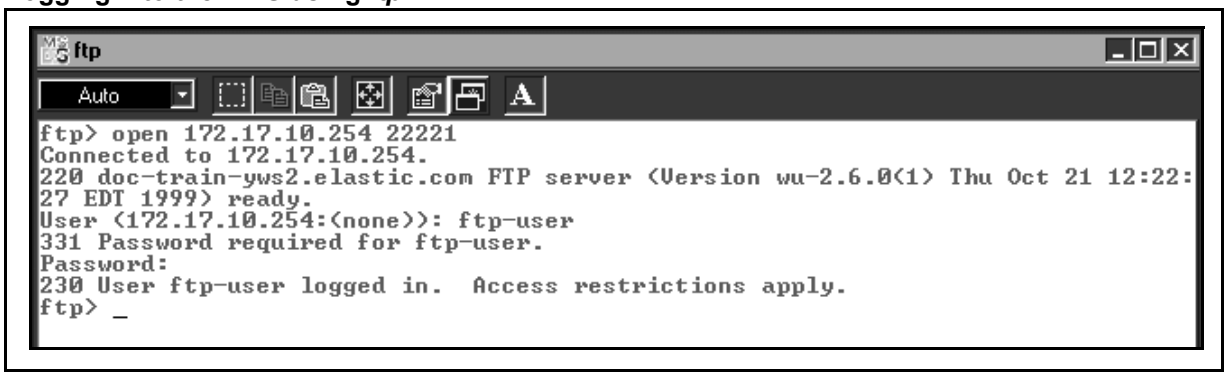
This procedure requires the following:

- basic knowledge of ***ftp*** commands
- ftp client computer with network access to the YWS

Action

Step	Action
1	Start the ***ftp*** client application.
2	Open a connection to the YWS using port **22221**. After a few moments, the The system then prompts for a **"User:"** login. ***Note:*** Some workstation platforms (such as Windows NT) may require reconfiguration of *ftp* settings to use port 22221.
3	At the **User:** prompt, enter **ftp-user**. The system then prompts for a password. ***Note:*** Be certain to enter "ftp-user" and not "vbn-user." The **vbn-user** login is used only for retrieving authentication pages as described in Chapter 10.
4	At the **Password:** prompt, enter the password of the **admin** user. This is the same password as the one used in the Elastic Operating Network (EON) to configure the YWS on the host network (see Chapter 3). The default **admin** password is **etherloop**. Figure 8-8 shows an example ftp-user login to a YWS at **172.17.10.254**.

Figure 8-8
Logging into the YWS using *ftp*



—continued—

Procedure 8-4 (continued)
Retrieving and deleting SDR logs using ftp

Step	Action
5	To change the ***ftp*** data transfer mode to the required binary mode, enter binary.
6	Use the *ftp* commands to retrieve or delete the SDR logs as required. The login completed in step 4 opens the directory containing the SDR logs, so no change-directory commands are required. SDR log files are stored in the following format: **[date].SDR**. For example, **20000824.SDR** is the SDR log for August 24, 2000. The following ***ftp*** commands are useful: • **ls**: List file contents of current directory. • **mget**: allows retrieval of multiple SDR files. For example, **mget *.SDR** will retrieve all SDR logs in the directory • **mdel**: allows deletion of multiple SDR files. • **prompt**: allows system to prompt before retrieving/deleting files. Default setting is "on," so enter this command only if you want to turn prompting off. ***Note:*** Enter **help** for a list of all available ***ftp*** commands.

STOP

You have completed this task.

Procedure 8-5
Creating billing record reports

Use this procedure and the View Billing Logs function to create and download reports for any or all of the three billing record logs (SDR logs, credit transaction logs, Auth Code logs).

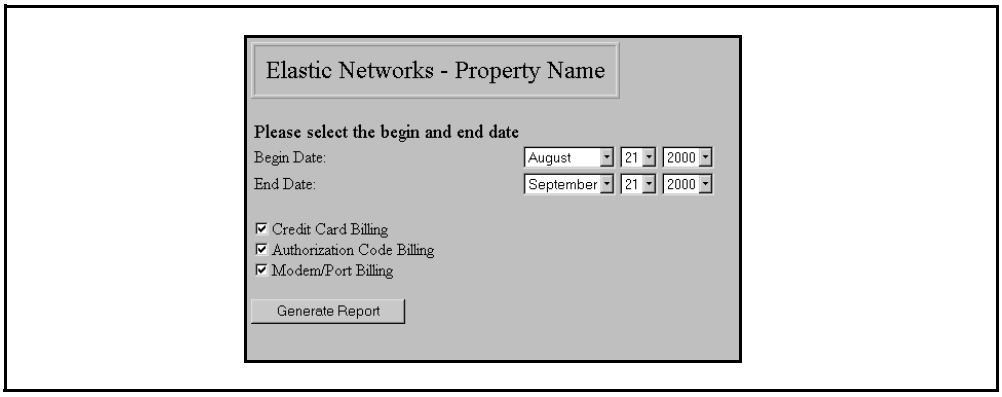
Requirements

This procedure requires a client computer with network access to the YWS

Action

Step	Action
1	Browse to the YWS, login and select the *Billing Manager* module link.
2	Select the View Billing Logs function to launch the billing report selection screen. See Figure 8-9.

Figure 8-9
Billing report selection screen

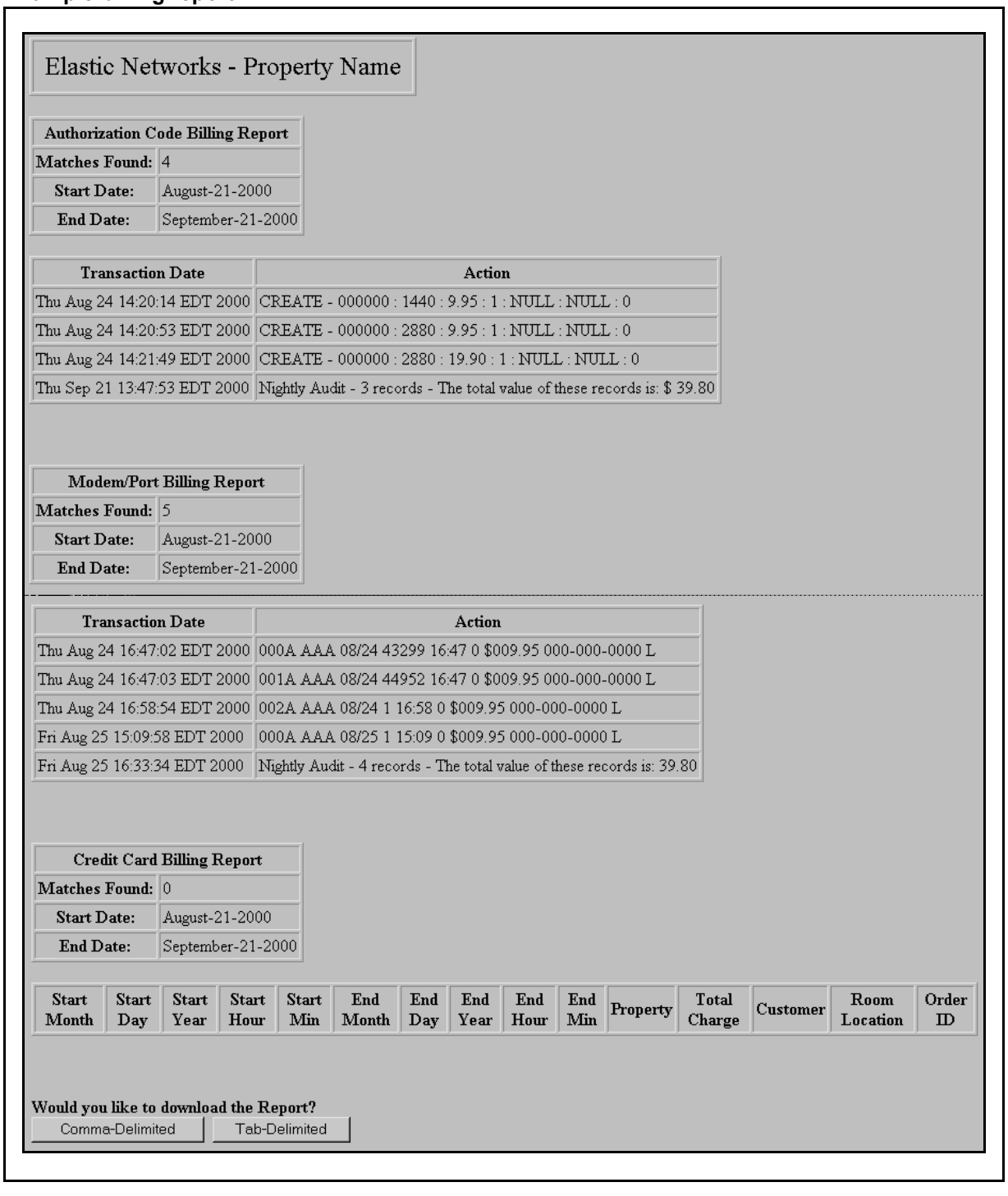


3	Select the billing logs to include in the report and the start/end dates, and click the Generate Report button. The system will prompt for confirmation of the report settings. Click the Yes button to generate the report or click No to cancel the report. Figure 8-10 on page 8-18 shows an example billing report including all three billing options.

—continued—

Procedure 8-5 (continued)
Creating billing record reports

Figure 8-10
Example billing report



Elastic Networks - Property Name

Authorization Code Billing Report	
Matches Found:	4
Start Date:	August-21-2000
End Date:	September-21-2000

Transaction Date	Action
Thu Aug 24 14:20:14 EDT 2000	CREATE - 000000 : 1440 : 9.95 : 1 : NULL : NULL : 0
Thu Aug 24 14:20:53 EDT 2000	CREATE - 000000 : 2880 : 9.95 : 1 : NULL : NULL : 0
Thu Aug 24 14:21:49 EDT 2000	CREATE - 000000 : 2880 : 19.90 : 1 : NULL : NULL : 0
Thu Sep 21 13:47:53 EDT 2000	Nightly Audit - 3 records - The total value of these records is: $ 39.80

Modem/Port Billing Report	
Matches Found:	5
Start Date:	August-21-2000
End Date:	September-21-2000

Transaction Date	Action
Thu Aug 24 16:47:02 EDT 2000	000A AAA 08/24 43299 16:47 0 $009.95 000-000-0000 L
Thu Aug 24 16:47:03 EDT 2000	001A AAA 08/24 44952 16:47 0 $009.95 000-000-0000 L
Thu Aug 24 16:58:54 EDT 2000	002A AAA 08/24 1 16:58 0 $009.95 000-000-0000 L
Fri Aug 25 15:09:58 EDT 2000	000A AAA 08/25 1 15:09 0 $009.95 000-000-0000 L
Fri Aug 25 16:33:34 EDT 2000	Nightly Audit - 4 records - The total value of these records is: 39.80

Credit Card Billing Report	
Matches Found:	0
Start Date:	August-21-2000
End Date:	September-21-2000

Start Month	Start Day	Start Year	Start Hour	Start Min	End Month	End Day	End Year	End Hour	End Min	Property	Total Charge	Customer	Room Location	Order ID

Would you like to download the Report?
Comma-Delimited | Tab-Delimited

—continued—

Procedure 8-5 (continued)
Retrieving and deleting SDR logs using ftp

Step	Action
4	To download and save the billing report, click the choose and click the Comma-Delimited or Tab-Delimited button. Figure 8-11 shows an example tab-delimited billing report based on the report shown in Figure 8-10 on page 8-18.
5	Save the report file as required.

Figure 8-11
Example tab-delimited billing report

```
Elastic Networks - Property Name
Authorization Code Billing Report

Matches Found   4
Start Date      August-22-2000
End Date        September-22-2000

Transaction Date        Action
Thu Aug 24 14:20:14 EDT 2000    CREATE - 000000 : 1440 :   9.95 : 1 : NULL : NULL : 0
Thu Aug 24 14:20:53 EDT 2000    CREATE - 000000 : 2880 :   9.95 : 1 : NULL : NULL : 0
Thu Aug 24 14:21:49 EDT 2000    CREATE - 000000 : 2880 :  19.90 : 1 : NULL : NULL : 0
Thu Sep 21 13:47:53 EDT 2000    Nightly Audit - 3 records - The total value of these records is: $   39.80


Elastic Networks - Property Name
Modem/Port Billing Report

Matches Found   5
Start Date      August-22-2000
End Date        September-22-2000

Transaction Date        Action
Thu Aug 24 16:47:02 EDT 2000    000A AAA 08/24 43299 16:47    0 $009.95 000-000-0000 L
Thu Aug 24 16:47:03 EDT 2000    001A AAA 08/24 44952 16:47    0 $009.95 000-000-0000 L
Thu Aug 24 16:58:54 EDT 2000    002A AAA 08/24 1     16:58    0 $009.95 000-000-0000 L
Fri Aug 25 15:09:58 EDT 2000    000A AAA 08/25 1     15:09    0 $009.95 000-000-0000 L
Fri Aug 25 16:33:34 EDT 2000    Nightly Audit - 4 records - The total value of these records is:    39.80


Elastic Networks - Property Name
Credit Card Billing Report

Matches Found   0
Start Date      August-22-2000
End Date        September-22-2000

Start Month     Start Day       Start Year      Start Hour      Start Min       End Month       End Day End Year
```

You have completed this task.

YesWare PMS integration

This chapter describes how to integrate the YWS into a Property Management System (PMS) for facilities using Guest Room Billing.

Chapter topic list

This chapter includes the following topics.

Topic	See
YesWare PMS integration process	page 9-2
YWS direct connection to PMS	page 9-3
YWS isolated connection to PMS	page 9-4
HOBIC AckNak configuration requirements	page 9-7
HOBIC One-Way configuration requirements	page 9-12
SNMP notification of PMS link disruption	page 9-16

Chapter task list

This chapter includes the following tasks.

Procedure	Task	See
9-1	Connecting the YWS to the PMS	page 9-5
9-2	Configuring the PMS Interface	page 9-14
9-3	Generating a Test Record for the PMS	page 9-15
9-4	Configuring SNMP trap recipient for PMS link disruptions	page 9-18

YesWare PMS integration process

Integrating the YWS into a facility PMS consists of the following major steps:

- configure the EtherLoop or Ethernet transport system ports to support Guest Room Billing as described earlier in this document
- configure the *Billing Manager* protocol and time settings using the Configure Billing Manager function, and billing rates using Add/Search Rate Table function as described in Chapter 8
- connect the YWS to the PMS interface
- configure the PMS interface using the Configure PMS interface function

This chapter describes the requirements to connect the YWS to the facility PMS and to configure the PMS interface.

YWS connection to the PMS

The YWS can connect to the PMS through either a direct RS232 serial connection from YWS **COM 1**, or using short-haul modem pairs (also called line drivers). The short-haul modem pairs are used to overcome RS232 distance limitations and isolate the YWS connection.

"YWS direct connection to PMS" on page 9-3 describes the requirements for using the direct PMS connection method. "YWS isolated connection to PMS" on page 9-4 describes the requirements for using short-haul modems or line-drivers in the isolated PMS connection method.

Procedure 9-1 on page 9-5 contains the step-by-step procedure to connect the YWS to the facility PMS using either connection method.

YesWare PMS interface configuration

The *Billing Manager* Configure PMS interface function is used to modify one of two PMS interface configurations called HOBIC AckNak and HOBIC One-Way. Each of these configurations are stored on the YWS as a "configuration file." These configuration files are used by the YWS to implement the specific posting protocols and record format required for posting to the PMS.

"HOBIC AckNak configuration requirements" on page 9-7 describes the requirements for using HOBIC AckNak configurations. "HOBIC One-Way configuration requirements" on page 9-12 describes the requirements for using HOBIC One-Way configurations.

Procedure 9-2 on page 9-14 contains the step-by-step procedure to configure the YWS to use either PMS interface configuration.

> ***Note:*** "SNMP notification of PMS link disruption" on page 9-16 explains how to configure the YWS to generate an SNMP trap/alarm if the PMS link goes down because of an unplanned event.

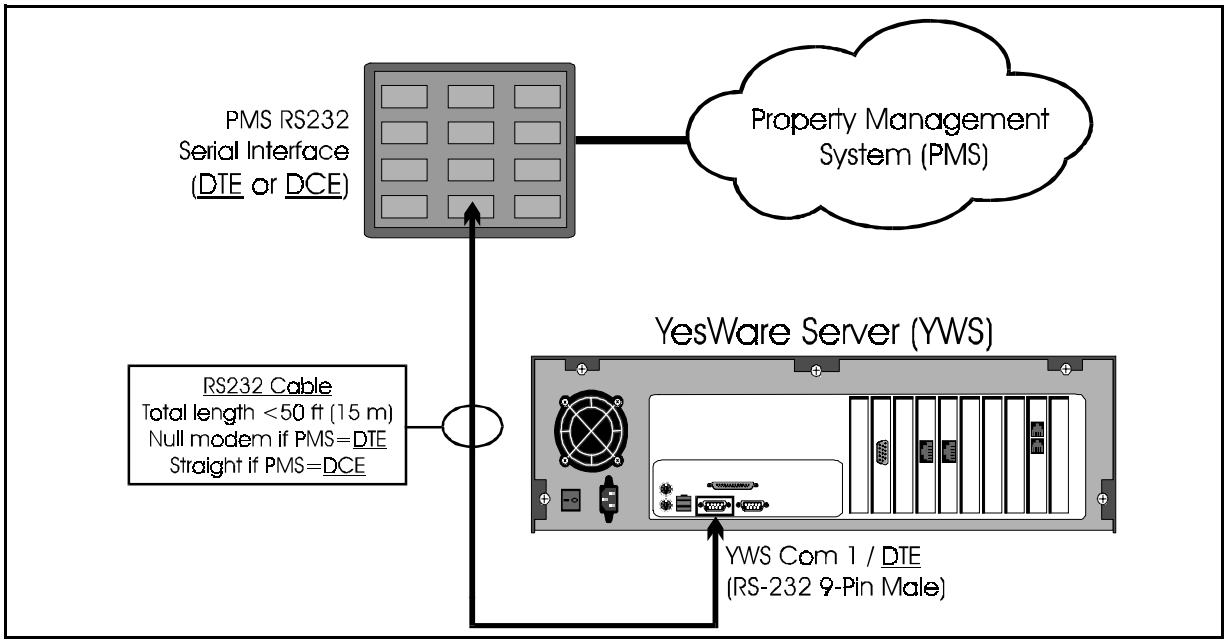
YWS direct connection to PMS

Figure 9-1 shows the YWS direct connection to the PMS. Note the following requirements about this type of connection:

- The direct connection method can be used only when the YWS is less than 50 ft (15 m) from the PMS interface.
- The YWS is a PC, which in the RS232 connection standard is a Data Terminal Equipment (DTE) device. If the PMS interface connection is also a DTE device, a "null-modem" RS232 cable must be used for any direct DTE-DTE connection.
- If the PMS interface is Data Circuit-terminating Equipment (DCE) device, a straight RS232 cable must be used.

Procedure 9-1 on page 9-5 describes how to determine if the PMS is a DCE or DTE device.

Figure 9-1
YWS direct connection to PMS



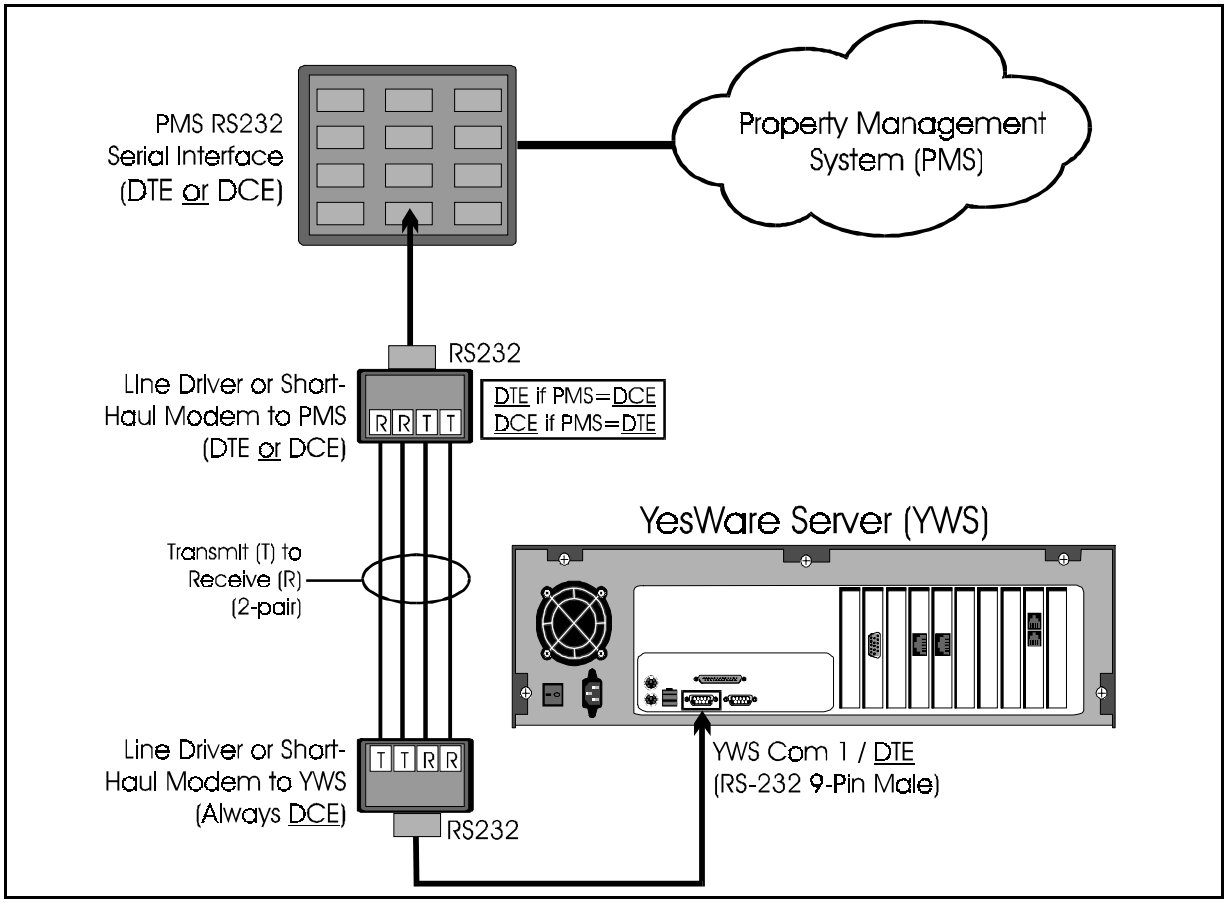
YWS isolated connection to PMS

Figure 9-2 shows the YWS isolated connection to the PMS. The isolated connection method consists of connecting a pair of short-haul modems or line drivers between the YWS and the PMS. The modem pair serves to boost the signal from the YWS to the PMS to ensure the integrity of the signal, and also isolate the YWS from damage caused by transient voltages. Note the following requirements about this type of connection:

- Use this method when the YWS is more than 50 ft (15 m) from the PMS interface, or if isolating and protecting the connection is a priority.
- The line driver or short-haul modem on the YWS end must be set to DCE.
- The two transmit wires on one modem/line driver must connect to the two receive wires on the other.
- The DTE/DCE setting of the modem/line driver on the PMS end is dependent on whether the PMS interface is DTE or DCE.

Procedure 9-1 on page 9-5 describes how to determine if the PMS is a DCE or DTE device.

Figure 9-2
YWS isolated connection to PMS



Procedure 9-1
Connecting the YWS to the PMS

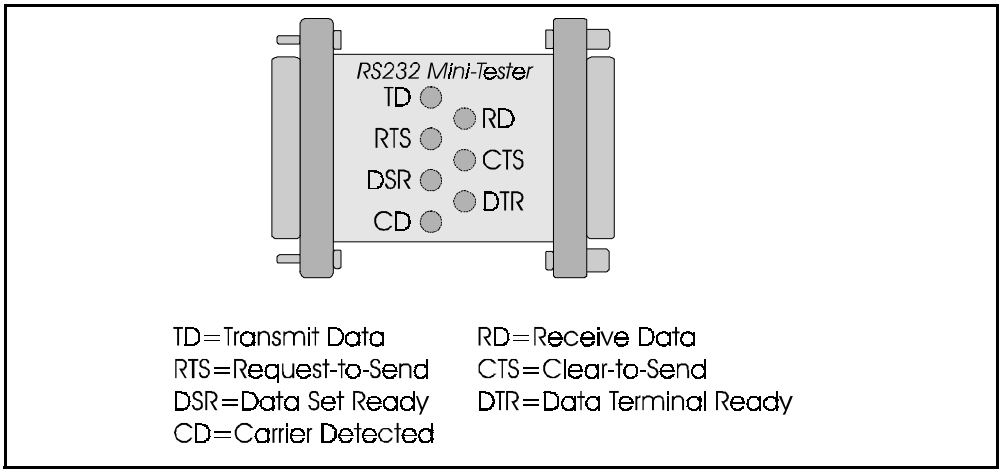
Use this procedure to select and connect the YWS to the PMS as described in "YesWare PMS integration process" on page 9-2.

Requirements

This procedure requires the following:

- two RS232 straight cables
- RS232 mini-tester similar to the one shown in Figure 9-3
- available RS232 connection on the PMS interface
- known RS232 DTE device connection such as a PC serial COM port or the YWS COM 1 port

Figure 9-3
RS232 Mini-tester



—continued—

Procedure 9-1 (continued)
Connecting the YWS to the PMS

Action

Step	Action
1	Connect an RS232 cable from the PMS RS232 serial interface to one end of a mini-tester similar to the one shown in Figure 9-3 on page 9-5.
2	With the device powered off, connect the known DTE device using the second RS232 straight cable to the other end of the RS232 mini-tester. If connecting to the YWS COM 1 port, the cable connector must be a 9-pin female.
3	Start the known DTE device. If the PMS device interface is DCE, **all** LEDs on the mini-tester should illuminate. If the PMS interface is a DTE device, one or more of the LEDs will not illuminate.
4	Select an RS232 cable to make the PMS connection based on the results of step 3.
5	Install the connection from the YWS to the PMS based on the facility requirements. See "YesWare PMS integration process" on page 9-2 for a description of these requirements and Figure 9-1 on page 9-3, "YWS direct connection to PMS," or Figure 9-2 on page 9-4, "YWS isolated connection to PMS" for illustrations of the YWS-to-PMS connections.

You have completed this task.

HOBIC AckNak configuration requirements

The HOBIC AckNak configuration uses the **acknak** file to format output and communicate with the PMS. Several standard billing formats can be used in HOBIC AckNak configurations to integrate the YWS into the facility PMS, including Promus/System 21, Hitachi Standard, and HOBIS Merge.

Figure 9-4 shows the default **acknak** file configuration dialog. Table 9-1 on page 9-8 contains the entry requirements and recommendations for each field in the dialog.

Figure 9-4
HOBIC AckNak default configuration dialog

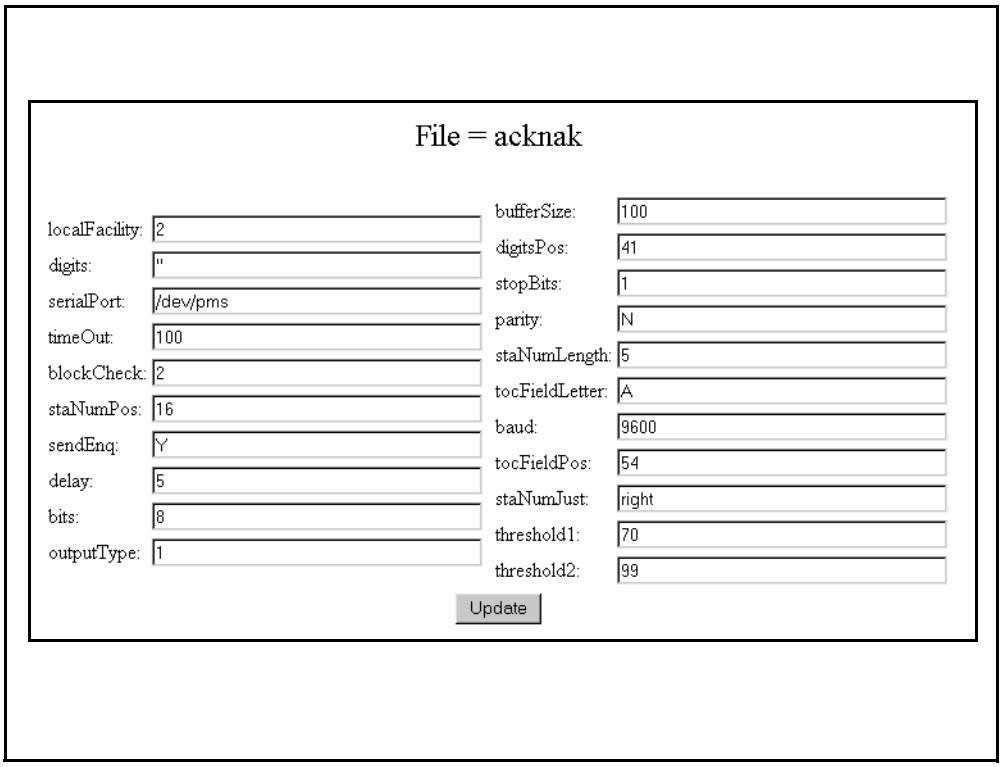


Table 9-1
HOBIC AckNak configuration settings

HOBIC AckNak setting	Default Value	Specifications and Entry Requirements
localFacility	2	YWS internal log facility. Do not edit this field.
digits	’’	Enter the digits between single quotes that the PMS system should substitute for the dialed digits in ALL call records fields. For example, enter the digits '800-123-4567' in this field and the PMS will substitute these digits in place of any call record, regardless of the number dialed. Leave the field in the default setting (") and no substitution will occur. Note the following special requirements for this entry: • If outputType field is set to 2, and the number of digits entered in this field is > 8, the PMS application will only copy the last 8 characters to the output call record. • For Promus/System 21 PMS systems, the entry should be 'INTERNET'' • For Hitachi Standard systems, use the default setting ("). • For HOBIS Merge systems, enter a 12 digit number
serialPort	/dev/pms	YWS internal serial port setting. Do not edit this field.
timeOut	100	Enter the number of 100-millisecond (ms) intervals the YWS should wait for an <ACK> or <NAK> reply from the PMS before placing a call record into the FIFO buffer. The timeout count begins after the YWS sends an <ENQ> or after the call record is sent to the PMS. For example, the default value of 100 means the timeout period is 100x100ms (10 seconds). If the PMS does not reply in 10 seconds or less to the YWS's <ENQ> or after the call record is sent, then the call record is placed in the FIFO buffer. Two more attempts are made, then the record is again placed in the FIFO buffer. Additional attempts are then made until the FIFO buffer fills up with records waiting to be sent and Threshold1 is crossed. See **threshold1** field specification below.
blockCheck	2	Enter the number of block check characters to send prior to sending ETX (end of transmission) character. For Promus/System 21 and Hitachi Standard systems, enter 1.
staNumPos	16	Enter the desired station number field position in outgoing record. This number indicates the position (starting from position 0 in the call record) that the station number should be placed. The YWS only uses this field if **outputType** setting is >=3 (see field description below). ***Note:*** For Promus/System 21 systems, use the default value of 16. Hitachi Standard and HOBIS Merge systems ignore this field.
sendEnq	Y	Enter **Y** for <ENQ> (enquiry character) needed by PMS, or **N** for no enquiry needed. For Promus/System 21 and Hitachi Standard systems, enter **Y**. HOBIS Merge systems ignore this field
—TABLE CONTINUED—		

Table 9-1 (continued)
HOBIC AckNak configuration settings

HOBIC AckNak setting	Default Value	Specifications and Entry Requirements
delay	5	Enter the number of 100ms intervals to wait before responding to a message. This field sets the amount of time YWS waits to send the next message, assuming the previous message was successfully acknowledged or placed in the FIFO buffer for a retry. By default, the YWS is set to wait for 5x100ms or 0.5 seconds between messages sent.
bits	8	Enter number of bits used for COM port communications.
outputType	1	Enter the number (1-4) designating the call record output type required by the PMS. Output types supported include the following: • 1 = HOBIC Standard/Original call record output format • 2 = Alternative 1 call record format. Type 2 overrides blockCheck entry to size 1. See **Table 9-2 on page 9-11** for the complete Output Type 2 format specifications. • 3 = Flexible format. All configuration entries in this format are used to indicate field placement. • 4 = HOBIS Merge call record output format ***Note:*** For Promus/System 21, use Output Type 3. For Hitachi Standard, use Output Type 1. For HOBIS Merge, use Output Type 4
bufferSize	100	Enter the maximum number of records to hold in the FIFO buffer. This setting should equal the number of rooms wired, with an upward limit of 500 records. Once this buffer size is exceeded, records will be sent to the service log. See **threshold1** field specification below.
digitsPos	41	Enter the desired start position for the dialed digits field in outgoing call record. In HOBIS Merge systems or if **outputType** field set to **2**, this field is ignored. For Promus/System 21 and Hitachi Standard systems, use default setting of 41.
stopBits	1	Enter number of stop bits used for COM port communications
parity	N	Enter **N** if parity is not used for COM port communications. Enter **E** if even parity is used, or enter **O** if odd parity is used.
staNumLength	5	Enter the number (from 3 to 5) of characters allowed to indicate the station number in the outgoing record. The YWS only uses this field if **outputType** setting is >=3 (see **outputType** field description). ***Note:*** For Promus/System 21 systems, use the default value of 5. Hitachi Standard and HOBIS Merge systems ignore this field.
—TABLE CONTINUED—		

Table 9-1 (continued)
HOBIC AckNak configuration settings

HOBIC AckNak setting	Default Value	Specifications and Entry Requirements
tocFieldLetter	A	Enter the alphanumeric designator used to indicate the type of call to the PMS in the outgoing call record. The YWS only uses this field if **outputType** setting is >=3 (see **outputType** field description). ***Note:*** For Promus/System 21 systems, use the default value of A. Hitachi Standard and HOBIS Merge systems ignore this field.
baud	9600	Enter baud rate used for COM port communications. Acceptable baud rate values include: **1200|2400|9600|38400**
tocFieldPos	54	Enter the alphanumeric designator used to indicate the position in the outgoing call record where the type of call designator will appear. The YWS only uses this field if **outputType** setting is >=3 (see **outputType** field description). ***Note:*** For Promus/System 21 systems, use the default value of 54. Hitachi Standard and HOBIS Merge systems ignore this field.
staNumJust	right	Enter the desired justification setting for the station number in the call record. The YWS only uses this field if **outputType** setting is >=3 (see field description). YesWare always blank fills the record as necessary, and never zero fills. Acceptable entries include the following: • left = left justified • right = right justified ***Note:*** For Promus/System 21 systems, use the default value of right. Hitachi Standard and HOBIS Merge systems ignore this field.
threshold1	70	Enter the lower threshold in the FIFO record buffer. When this threshold is crossed, an SNMP trap message is sent to the trap recipient location which is configured in this field. The default setting of 70 means that the YWS waits until 70 records are in the FIFO buffer before sending the SNMP trap. See “SNMP notification of PMS link disruption” on page 9-16 for more information on how to configure this field.
threshold2	99	Enter the upper threshold of the FIFO record buffer. When this threshold is crossed, records are sent to a service log instead of the PMS and another SNMP trap message is sent to the trap recipient location which is configured in this field. The default setting of 99 means that the YWS waits until 99 records are in the FIFO buffer before sending records to the service log and sending the SNMP trap. Records sent to the service log must be manually posted to the billing system after the PMS link is re-established. See “SNMP notification of PMS link disruption” on page 9-16 for more information.
—END OF TABLE—		

Table 9-2
Output Type 2 call record format

Call Record Position	Format Specification
0-3	4 digit sequence number
5-7	characters "HTL"
9-13	date in format MM/DD
15-18	4 digit room number
20-24	time in format HH:MM
26-29	4 digit duration
31-37	service charge in format $DDD.CC
39-46	dialed digits format NNN-NNNN
47	blank over 1 digit BCC (block-check character)
48	ETX (end-of-transmission)

HOBIC One-Way configuration requirements

The HOBIC One-Way configuration uses the **hobic** file to format output. The HOBIC One-Way configuration does not send an ENQ, and does not accept acknowledgment after a record is sent. This configuration should only be used for output from the YWS to a serial printer.

Figure 9-5 shows the default **hobic** file configuration dialog. Table 9-3 on page 9-13 contains the entry requirements and recommendations for each field in the dialog.

Figure 9-5
HOBIC One-Way configuration dialog

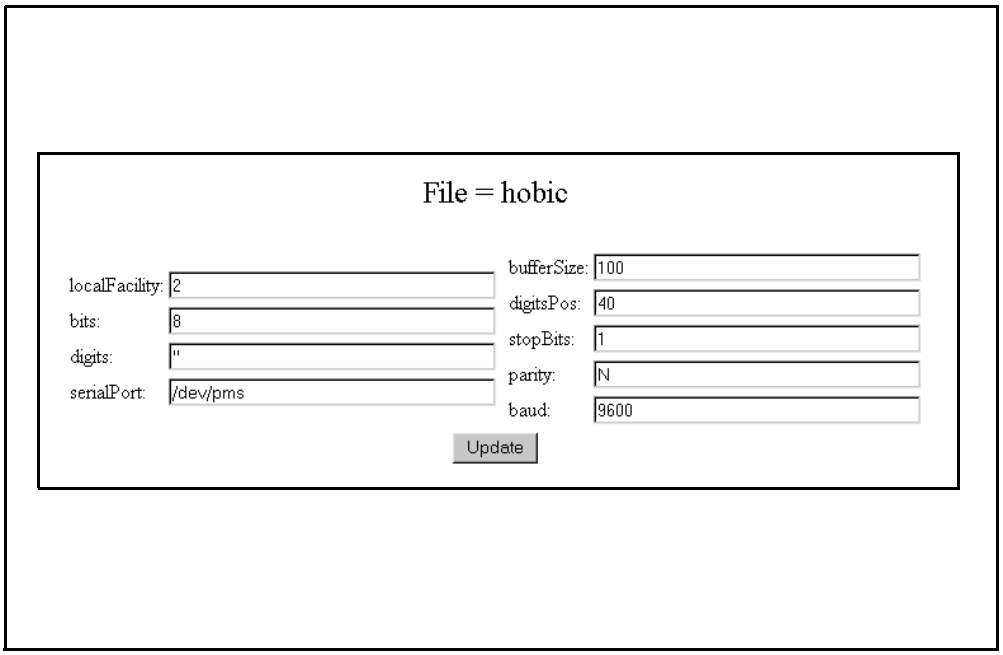


Table 9-3
HOBIC One-Way configuration settings

HOBIC One-Way setting	Default Value	Specifications and Entry Requirements
localFacility	2	YWS internal log facility. Do not edit this field.
digits	’’	Enter the digits between single quotes that the PMS system should substitute for the dialed digits in ALL call records fields. For example, enter the digits '800-123-4567' in this field and the PMS will substitute these digits in place of any call record, regardless of the number dialed. Leave the field in the default setting ('') and no substitution will occur.
serialPort	/dev/pms	YWS internal serial port setting. Do not edit this field.
bits	8	Enter number of bits used for COM port communications.
bufferSize	100	Not applicable in HOBIC One-Way configurations. Do not edit this field.
digitsPos	40	Enter the desired start position for the dialed digits field in outgoing call record.
stopBits	1	Enter number of stop bits used for COM port communications
parity	N	Enter **N** if parity is not used for COM port communications. Enter **E** if even parity is used, or enter **O** if odd parity is used.
baud	9600	Enter baud rate used for COM port communications. Acceptable baud rate values include: **1200|2400|9600|38400**

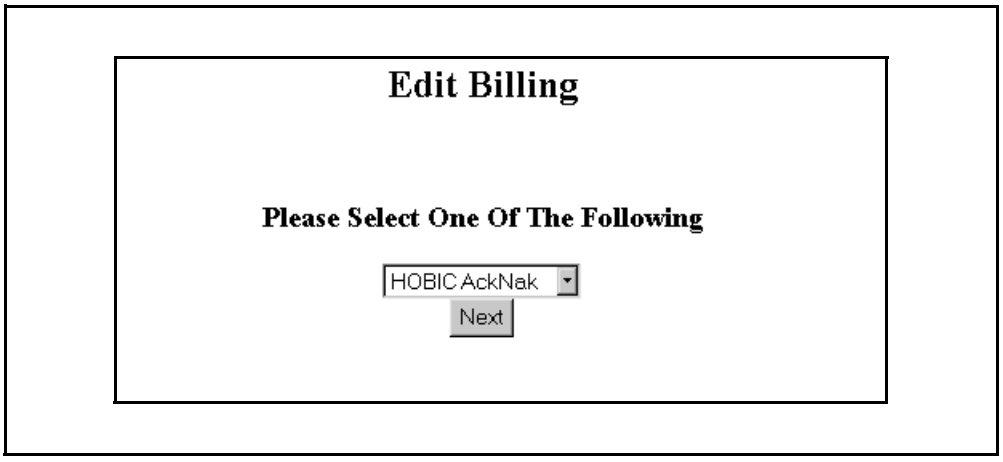
Procedure 9-2
Configuring the PMS Interface

Use this procedure to configure the PMS interface using the *Billing Manager* Configure PMS Interface function.

Action

Step	Action
1	From the YesWare Main Menu, select the *Billing Manager* module.
2	Click the Configure PMS Interface function link to launch the **Edit Billing** dialog. See Figure 9-6.

Figure 9-6
Edit Billing interface dialog



3	Use the pull-down menu to select the PMS configuration ("HOBIC AckNak" or "HOBIC One-Way") required for the local PMS and click the "Next" button. ***Note:*** The "PMS Interface" selection is an internal YWS setting and should not be edited.
4	Edit the PMS configuration file as necessary for the local PMS. ***Note:*** For guidance in editing HOBIC AckNak configurations, see “HOBIC AckNak configuration requirements” on page 9-7. For guidance in editing HOBIC One-Way configurations, see “HOBIC One-Way configuration requirements” on page 9-12.

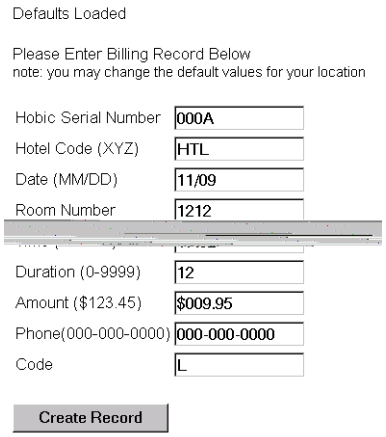
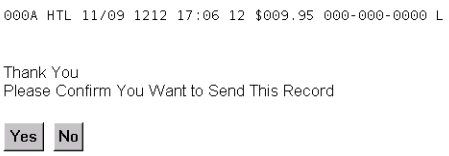
STOP

You have completed this task.

Procedure 9-3
Generating a Test Record for the PMS

The following procedure explains how to generate a test record after the YWS has been connected to the PMS and the PMS has been configured as described earlier in this chapter.

Action

Step	Action
1	From the YesWare main menu, choose **Billing Manager**. *The Billing Manager menu appears.*
2	Click **Generate Test Record**. *The Generate Test Record dialog appears.* **Figure 9-7** **Generate Test Record dialog** 
3	Edit the fields as necessary. When ready, click the **Create Record** button. A screen similar to the following appears: 
4	The system returns a message, letting you know the record has been created and a record sent.

STOP

You have completed this task.

SNMP notification of PMS link disruption

Occasionally, the PMS loses its ability to communicate with one or all of the posting devices that send billing and guest information to the PMS. This loss of communication may be intentional, such as when the night auditor reconciles the billing records for each guest. However, the loss of communication can also indicate a communications problem between a posting device such as the YWS and the facility PMS.

The YesWare administrator can configure the YWS to generate an SNMP trap if the YWS loses communication with the PMS because of an unplanned event. This SNMP trap can be used to notify a central monitoring center such as a Network Operations Center (NOC), which then can use the trap to generate an alam condition and take corrective action. This section and Procedure 9-4 on page 9-18 describe the requirements and procedure to use this feature.

SNMP trap configuration requirements

The SNMP trap used to indicate PMS link disruption is configured using the **threshold1** and **threshold2** fields in the **HOBIC AckNak** configuration file (see Table 9-1 on page 9-8). These thresholds indicate the status of the FIFO buffer that temporarily holds posting records that could not be sent to the PMS for whatever reason. The YesWare administrator must select the values of these thresholds and configure the location of the SNMP trap recipient. The following sections describe the requirements for doing these tasks.

HOBIC AckNak Threshold 1 selection requirements

The **threshold1** field setting contains the lower threshold in the FIFO buffer. When Threshold 1 is crossed, an SNMP trap is sent to the network location configured in the **threshold1** field. Threshold 1 must be set high enough so that false alarms are not caused by these intentional PMS shutdowns, but low enough so that real problems in YWS-PMS communications are detected in a timely and useful manner.

The YesWare administrator must be aware of the facility's schedule of planned PMS shutdowns, such as the time and typical duration of the nightly audit. If Threshold 1 is too low, false alarms will occur each night as a result of the nightly audit. If Threshold 1 is set too high, the communications link between the YWS and the PMS may be offline for several days before a notice is sent, at which point the visitor may have checked out and any charges incurred will be lost.

If possible, the YesWare administrator should also learn the "average" number of YesWare users the facility expects each night. If the nightly usage rate is unknown, the recommended Threshold 1 should be equal to approximately 10 percent of the total number of rooms wired for YesWare service. Threshold 1 may be adjusted as the usage rate changes at the facility.

HOBIC AckNak Threshold 2 selection requirements

The **threshold2** field contains the upper limit of the FIFO buffer. When Threshold 2 is crossed, records are sent to a service log instead of the PMS and another SNMP trap is sent. Records sent to the service log must be manually posted to the billing system after the PMS link is re-established.

If Threshold 2 is set too low, records will sent to the service log and not sent to the PMS once the PMS-to-YWS link is re-established. Threshold 2 should be equal to the buffer size configured in the HOBIC AckNak configuration file (see Table 9-1 on page 9-8) or the total number of rooms wired for YesWare service.

SNMP trap recipient configuration

To configure the recipient for the SNMP trap generated by PMS communication problems, the YesWare administrator must know the following:

- values selected for Threshold 1 and Threshold 2
- IP address or host name of the YesWare Server
- IP address or host name of SNMP trap recipient
- Text selected for SNMP trap message, such as 'AckNak server passing threshold 1'

Procedure 9-4 on page 9-18 describes the steps required to configure the SNMP trap recipient for Threshold 1 and Threshold 2 traps.

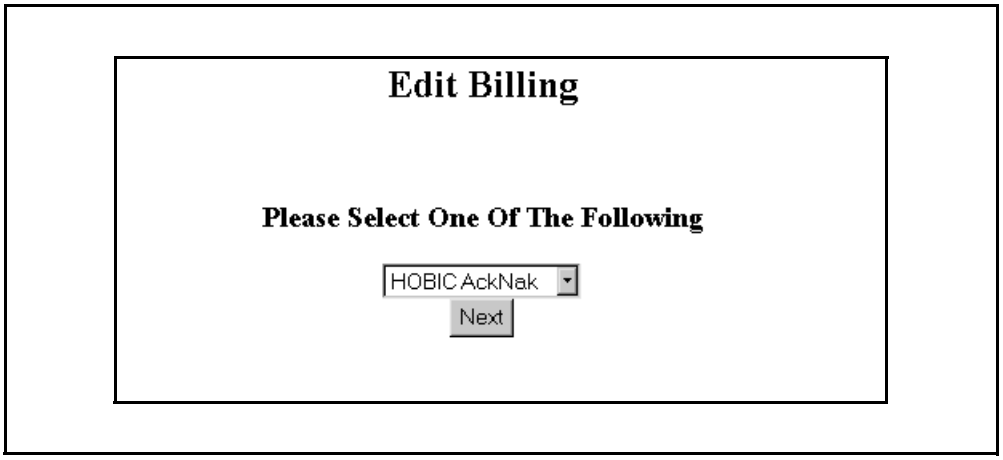
Procedure 9-4
Configuring SNMP trap recipient for PMS link disruptions

Use this procedure to configure the SNMP trap recipient for PMS link Threshold 1 and Threshold 2 traps. This procedure should be done only after the remainder of the PMS interface has been configured as described in Procedure 9-2 on page 9-14.

Action

Step	Action
1	From the YesWare Main Menu, select the *Billing Manager* module.
2	Click the Configure PMS Interface function link to launch the **Edit Billing** dialog. See Figure 9-6.

Figure 9-8
Edit Billing interface dialog



3	Use the pull-down menu to select the "HOBIC AckNak" configuration and click the "Next" button.
4	Delete whatever text exists in the **threshold1** and **threshold2** fields of the acknak configuration file.

—continued—

Procedure 9-4 (continued)
Configuring SNMP trap recipient for PMS link disruptions

Step	Action
5	Enter the following in the **threshold1** field of the **acknak** configuration file (The command is entered all on one line. It is shown on several lines here because of space limitations.): **[Numeric Threshold 1 setting] snmptrap -v 1 [trap recipient host name or IP address] public 1 [YWS hostname or IP address] 2 0 ” system.sysDescr.0 s ’AckNak server passing threshold 1’;** Note the following about the above **threshold1** field entry: • The **[Numeric Threshold 1 Setting]** is the number of records designated as the lower threshold of the FIFO buffer as described in “SNMP notification of PMS link disruption” on page 9-16 • The **”** marks after the **[YWS hostname or IP address] 2 0** must be entered as two single-quotation marks, not one double-quotation mark • The text string **’AckNak server passing threshold 1’** can be replaced with a different string according to administrator requirements. The following is an example of a **threshold1** field entry (Threshold 1 = 9): **9 snmptrap -v 1 destination.testlab.elastic.com public 1 source.testlab.elastic.com 2 0 '' system.sysDescr.0 s 'AckNak server passing threshold 1';**
6	Enter the following in the **threshold2** field of the acknak configuration file: **[Numeric Threshold 2 setting] snmptrap -v 1 [trap recipient host name or IP address] public 1 [YWS hostname or IP address] 2 0 ” system.sysDescr.0 s ’AckNak server passing threshold 2’;** Note the following about the above **threshold2** field entry: • The **[Numeric Threshold 2 Setting]** is the number of records designated as the upper threshold of the FIFO buffer as described in “SNMP notification of PMS link disruption” on page 9-16 • The **”** marks after the **[YWS hostname or IP address] 2 0** must be entered as two single-quotation marks, not one double-quotation mark • The text string **’AckNak server passing threshold 2’** can be replaced with a different string according to administrator requirements. The following is an example of a **threshold2** field entry (Threshold 2 = 100): **100 snmptrap -v 1 destination.testlab.elastic.com public 1 source.testlab.elastic.com 2 0 '' system.sysDescr.0 s 'AckNak server passing threshold 2';**

You have completed this task.

Customizing the VBN web site

This chapter contains the requirements and procedures to customize the VBN web site used by YesWare visitors.

Chapter topic list

This chapter includes the following topics.

Topic	See
VBN page customization	page 10-2
YesWare VBN pages	page 10-3
Using <VBN SHOW> tags	page 10-4
Branding and home/splash page configuration	page 10-7

Chapter task list

This chapter includes the following tasks.

Procedure	Task	See
Procedure 10-1	Creating the custom VBN web site	page 10-11
Procedure 10-2	Configuring the Virtual Concierge	page 10-13

VBN page customization

Customizing YesWare VBN pages requires knowledge of web page construction and writing HTML code. The default YesWare VBN pages must be used as the basis for creating the custom VBN pages, and must be edited manually to include the custom graphics and style sheets, and any other desired functions such as Javascripts, Java applets, and cgi-perl. Third-party software packages that "automatically" generate web pages should not be used to create YesWare VBN pages. However, these software packages can be used to create the "auxiliary" pages such as Virtual Concierge content and visitor Help pages to assist visitors using the YesWare service.

VBN page construction

The default YesWare VBN pages are constructed of standard HTML code and specialized **<VBN SHOW>** tags. The **<VBN SHOW>** tags are created by Elastic Networks for use in YesWare VBN pages. Custom VBN pages are constructed using these components as well as custom graphics and auxiliary HTML pages and functions.

Tasks required for VBN page customization

Customizing YesWare VBN pages for the host web site includes the following major tasks:

- Retrieve the VBN pages from the YWS.
- Edit the VBN pages as required.
- Create other pages and graphics and configure the Virtual Concierge server.
- Configure service-provider branding and the VBN home page.
- Place the modified VBN pages and other content on the YWS.

The following sections and procedures describe YesWare VBN page construction and the requirements and restrictions for using the VBN page components:

- **“YesWare VBN pages” on page 10-3** describes the VBN pages available for use in the YesWare system, and the purpose for which each page is used.
- **“Using <VBN SHOW> tags” on page 10-4** describes the requirements for using the **<VBN SHOW>** tags with the VBN authentication pages.
- **“Branding and home/splash page configuration” on page 10-7** describes the requirements to configure service-provider branding and designating the home page used by the VBN.
- **Procedure 10-1 on page 10-11** contains the step-by-step procedure to create the custom look-and-feel for the VBN web site.
- **Procedure 10-2 on page 10-13** contains the steps required configure the Virtual Concierge content server used by the YWS.

YesWare VBN pages

Each VBN page has a specific function in YesWare and certain usage requirements. Table 10-1 lists the VBN pages available for use in the YesWare system, and the purpose for which each page is used.

> ***Note:*** Other VBN pages exist on the YWS (such as **passwd.vbn**) that are not supported and cannot be used. Only the VBN pages listed in Table 10-1 are supported in this release of YesWare.

Table 10-1
VBN pages available in YesWare

VBN page name	YesWare system purpose
authcode.vbn	Authentication page presented to visitors connecting to ports with the **public** Port Use Context. Requires a previously-generated Auth Code to authenticate visitors.
authcodeerr.vbn	Service-refusal page presented to visitors who enter an invalid Auth Code.
credit.vbn	Authentication page presented to visitors connecting to ports with the **credit** Port Use Context. Requires a valid visitor credit-card to authenticate visitors and Credit-Card Billing configured on the YWS as described in Chapter 8.
crediterr.vbn	Service-refusal page presented to visitors who enter an invalid credit card number, or if there was a problem connecting with the **Authorize.Net** server.
creditgranted.vbn	"Thank You" page presented after successful validation of a visitor credit-card.
dis.html	"Terms and Conditions" page presented to visitors who choose to view the service terms and conditions from any of the authentication pages.
filenotfound.vbn	Page presented when visitor tries to access a page on the YWS that does not exist.
granted.vbn	"Thank You" page presented after a visitor has accepted a charge to the room or has entered a valid Auth Code for access.
guest.vbn	Authentication page presented to visitors connecting to ports with the **guest** Port Use Context. Allows visitors to accept a room charge or enter a valid Auth Code.
meeting.vbn	Authentication page presented to visitors connecting to ports with the **meeting** Port Use Context. Requires an Auth Code to authenticate visitors, unless the visitor has an IP address generated by the Conference Scheduler (see Chapter 11).
portdisabled.vbn	Page presented when visitor tries to use a port that is disabled in *Port Manager*.
refuse_charge.vbn	Service-refusal page when visitors select "Cancel" on the **guest.vbn** page.
system_error.vbn	Page presented when the YWS is having server difficulties or if other network issues are present.
unreachable.vbn	Page presented when visitor tries to access a page on the YWS that is not accessible from the public side of the network.

Using <VBN SHOW> tags

Each **<VBN SHOW>** tag has a specific function on the VBN pages and certain usage requirements. The **<VBN SHOW>** tags serve the following functions:

- Create the forms used to authenticate or refuse service on VBN authentication pages.
- Display information about the port connection and the service-provider.
- Display certain graphics used on most VBN pages

The following sections describe the usage requirements of the **<VBN SHOW>** tags according to the functions they serve on the VBN authentication pages. Only the **<VBN SHOW>** tags listed in this section are supported in this release of YesWare.

<VBN SHOW> tags used for visitor authentication

The <VBN SHOW> tags used for visitor authentication display the functional forms and entry fields/buttons required to authenticate visitors according to the Port Use Context. Table 10-2 lists the VBN authentication pages and corresponding Port Use Contexts. Table 10-3 lists the **<VBN SHOW>** tags used on the on the VBN authentication pages, and the tag function.

Table 10-2
VBN authentication pages and Port Use Contexts

VBN authentication page	Port Use Context
guest.vbn	guest
credit.vbn	credit
authcode.vbn	public
meeting.vbn	meeting

Table 10-3
<VBN SHOW> tag functions for VBN authentication pages

<VBN SHOW> tag name	<VBN SHOW> tag function
<VBN SHOW=CreditForm>	Displays the functional form with the credit-card entry fields to authenticate visitors using **credit** ports. The **credit.vbn** authentication page must contain this tag. This tag cannot be used on other pages.
<VBN SHOW=BillToRoom>	Displays the bill-to-room functional form with the OK and Cancel buttons required for ports using **guest** ports. The **guest.vbn** authentication page must contain this tag. This tag cannot be used on other pages.
<VBN SHOW=AuthCode>	Displays the functional form with the Auth Code entry field required to authenticate visitors using **public** or **meeting** ports. The **authcode.vbn** and **meeting.vbn** authentication pages must contain this tag. This tag can also be used when Port Use Context is **guest** or **credit**,

<VBN SHOW> tags used for port and service information

The Table 10-3 lists the **<VBN SHOW>** tags used to provide port and service-provider information. These tags are not used when the Port Use Context is **network**.

Table 10-4
<VBN SHOW> tag VBN port and service functions

<VBN SHOW> tag name	<VBN SHOW> tag function
<VBN SHOW=PortLocation>	Displays the location of the port as provisioned in the "Port Location" field in the **Port Configuration** dialog found in the *Port Manager* module.
<VBN SHOW=PortSection>	Displays the port section as provisioned in the "Port Section" field in the **Port Configuration** dialog found in the *Port Manager* module.
<VBN SHOW=Price>	Displays the price provisioned for the port using the Add/Search Rate Table function in Billing Manager. This tag is used only in Guest Room Billing ports provisioned with the **guest** Port Use Context. This tag cannot be used when Port Use Context is **credit**, **meeting**, **network** or **public**.
<VBN SHOW=PropertyName>	Displays the property name provisioned in the "Property Name" field of the **Branding Configuration** dialog found in the *Port Manager* module.
<VBN SHOW=ServiceName>	Displays the name of the service provisioned using the Custom Look and Feel function found in the *Port Manager* module.
<VBN SHOW=ISP>	Displays the name of the Internet Service Provider (ISP) provisioned in the "ISP Name" field of the **Branding Configuration** dialog found in the *Port Manager* module.
<VBN SHOW=CurrentTime>	Displays the current time taken from the YWS internal clock.
<VBN SHOW=PortType>	Port Type (<VBN SHOW=PortType>) does not appear when Port Use Context is 'network'.
<VBN SHOW=CheckOutTime>	Displays the facility check-out time provisioned in the "Check Out Time" field when using the Configure Billing Manager function found in the *Billing Manager* module. This tag is used only in Guest Room Billing ports provisioned with the **guest** Port Use Context. This tag cannot be used when Port Use Context is **credit**, **meeting**, **network** or **public**.

<VBN SHOW> tags used for VBN graphics

The Table 10-3 lists the **<VBN SHOW>** tags used to display VBN graphics stored on the YWS in the ***.gif** format. To use these tags, the file names of the custom graphics must be identical to the file names listed in Table 10-5.

> ***Note:*** Other graphics can be used. However, additional graphics must be added using standard HTML links and web-page design techniques.

Table 10-5
<VBN SHOW> tags and graphics files

<VBN SHOW> tag name	VBN graphic file displayed
<VBN SHOW=TopBanner>	topBanner.gif
<VBN SHOW=BottomBanner>	bottomBanner.gif
<VBN SHOW=HelpImage>	helpButton.gif
<VBN SHOW=CorporateLogo>	corpLogo.gif
<VBN SHOW=BrandLogo>	brandLogo.gif
<VBN SHOW=PrintPLogo>	printPropLogo.gif
<VBN SHOW=PrintAccept>	printAcceptableUsePolicy.gif
<VBN SHOW=AltImage>	alternate.gif

Branding and home/splash page configuration

Service-provider branding is provided using the **Branding Configuration** and **Custom Look and Feel** dialogs and the <VBN SHOW> tags listed in Table 10-4 on page 10-5.

Branding Configuration dialog

The **Branding Configuration** dialog is launched using Add/Search Branding Setup function located in the **System Setup** section of the *Port Manager* module. Figure 10-1 shows the default **Branding Configuration** dialog. The "Home Page URL" entered in this dialog is used as the "home/splash" page presented to users after authentication. See “Custom Look and Feel configuration” on page 10-8 for more about VBN home/splash page usage.

Figure 10-1
Default Branding Configuration dialog

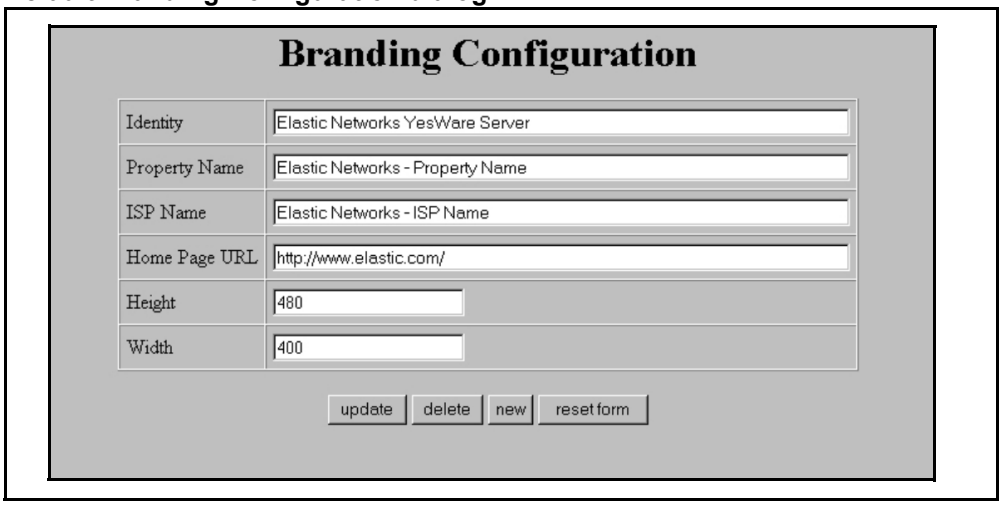


Table 10-6
Branding Configuration dialog settings

Branding Configuration Setting	Field Entry Specification
Identity	Not used.
Property Name	Enter name of local site. Used with the <VBN SHOW=PropertyName> tag
ISP Name	Enter the name of the Internet Service Provider. Used with the <VBN SHOW=ISP> tag.
Home Page URL	Enter the IP address or DNS host name of the home/splash page designated for the VBN.
Height/Width fields	Specify the height and width in pixels used for For home/splash page window defined in the "Home Page URL" field.

Custom Look and Feel configuration

The **Custom Look and Feel** dialog is launched using Custom Look and Feel function located in the **System Tools** section of the *Port Manager* module. This dialog is used to designate how the home/splash page designated in the **Branding Configuration** appears to the visitor after authenticating on the VBN.

Figure 10-2 shows the **Custom Look and Feel** dialog. Table 10-7 on page 10-9 describes the functions and entries required in the **Custom Look and Feel** dialog.

Figure 10-2
Default Custom Look and Feel dialog

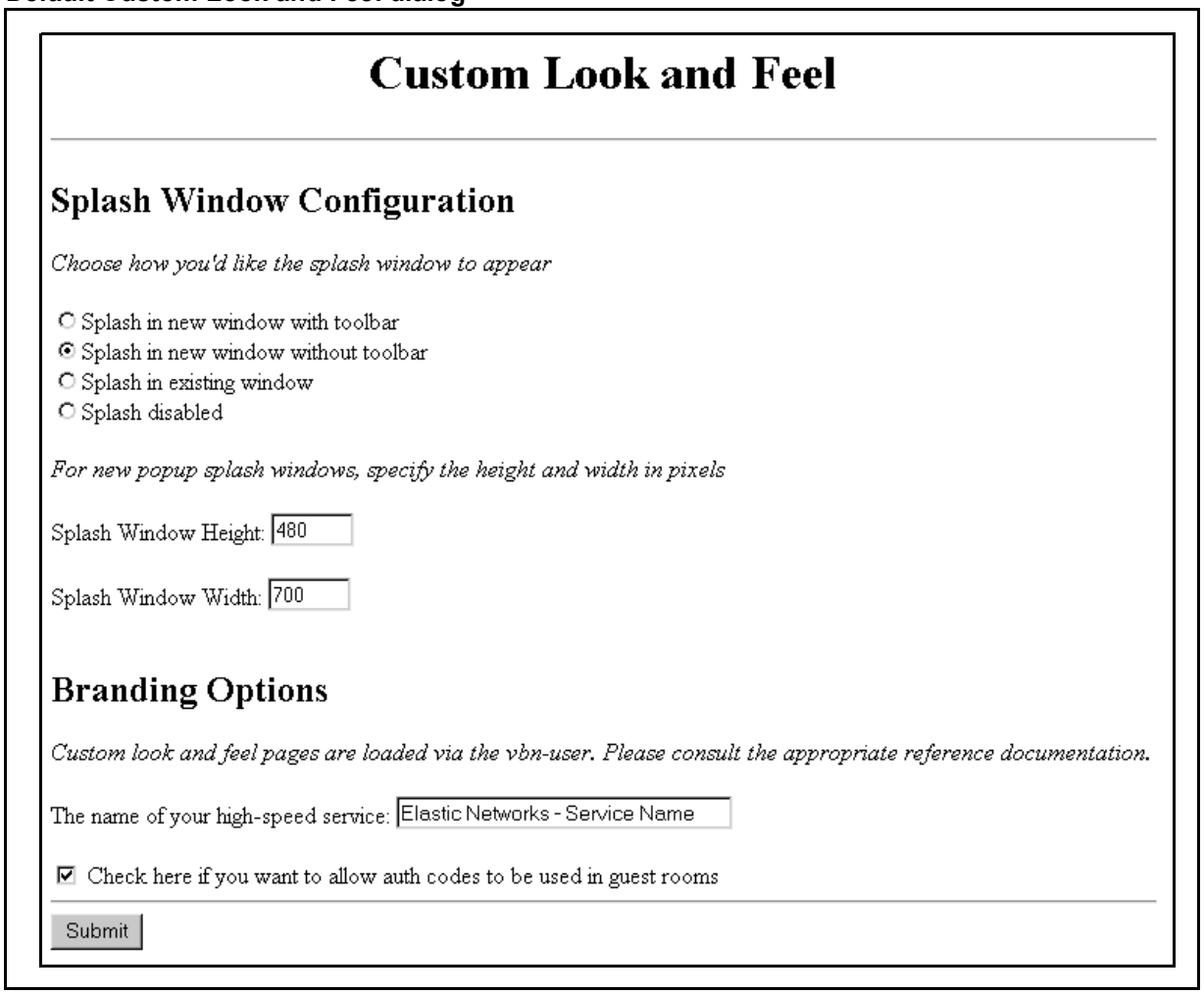

Custom Look and Feel
Splash Window Configuration
Choose how you'd like the splash window to appear
Splash in new window with toolbar
Splash in new window without toolbar
Splash in existing window
Splash disabled
For new popup splash windows, specify the height and width in pixels
Splash Window Height: 480
Splash Window Width: 700
Branding Options
Custom look and feel pages are loaded via the vbn-user. Please consult the appropriate reference documentation.
The name of your high-speed service: Elastic Networks - Service Name
Check here if you want to allow auth codes to be used in guest rooms
Submit

Table 10-7
Custom Look and Feel Settings and Options

Custom Look and Feel Setting	Configuration Options
Splash Window Configuration	In this field, choose how you'd like the splash window to appear: • Splash in new window with toolbar • Splash in new window without toolbar • Splash in existing window • Splash disabled See “Splash Window Configuration options” below.
Splash Window Configuration/ Height and Width	For new popup splash windows, specify the height and width in pixels.
Branding Options	Not used
The name of your high-speed service:	Enter the name assigned based on local office procedures.
Check here if you want to allow auth codes to be used in guest rooms	Not used. This field should always be checked.

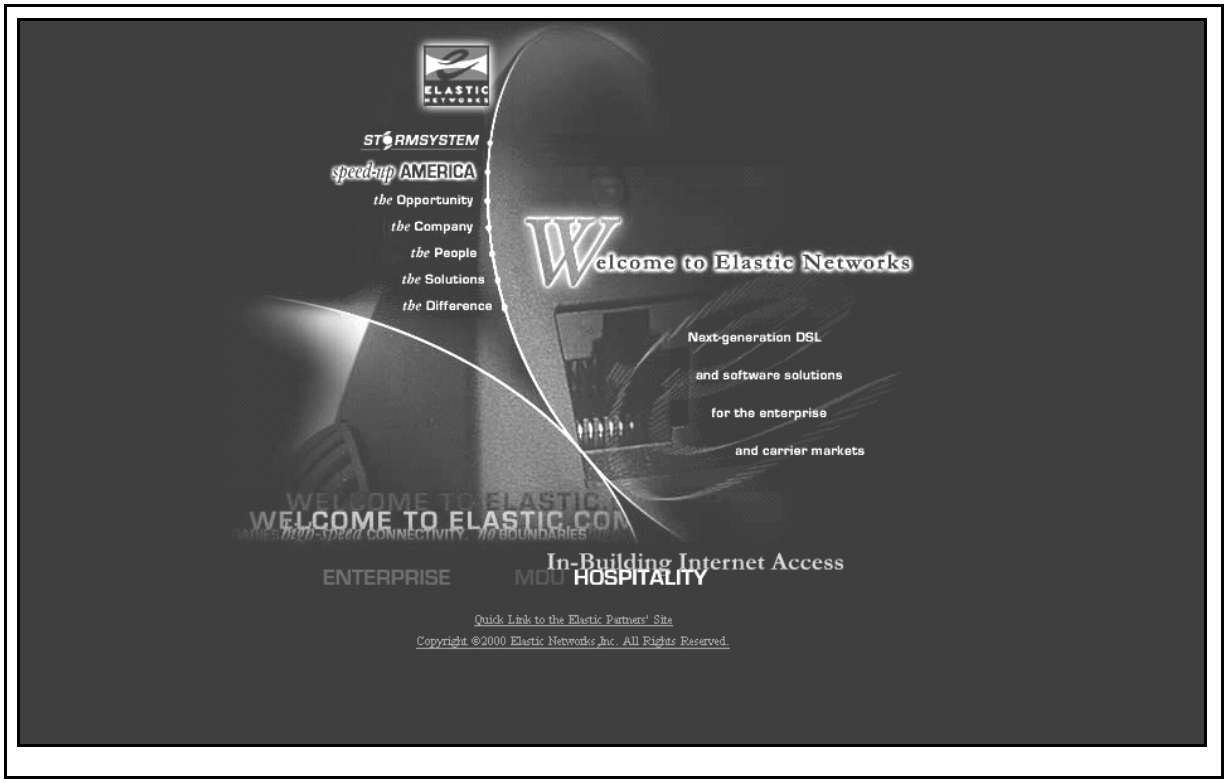
Splash Window Configuration options

The Splash Window Configuration options listed in YesWare offers the following home/splash page settings to the service-provider:

- **Splash in existing window:** The home/splash page appears in the same browser window that the visitor used to authenticate. In this configuration, the home/splash page of the service-provider serves as an Internet "portal," and will replace any home page configured on the visitor’s computer.
- **Splash in new window:** In this configuration, the home/splash page appears in a separate browser window after the visitor authenticates. Visitors see their own home page after the authentication page, while the service-provider page appears elswhere on the desktop where it can be viewed or closed by the user.
- **Splash disabled:** In this configuration, no splash page appears. Visitors see their own home page after the authentication page.

Figure 10-3 on page 10-10 shows the Elastic Networks home page used as the default VBN home page.

Figure 10-3
Elastic Networks home/splash page default



Procedure 10-1
Creating the custom VBN web site

Use this procedure to create the custom VBN web site.

Requirements

This procedure requires the following:

- basic knowledge of ***ftp*** commands
- ***ftp*** client computer with network access to the YWS
- knowledge of web page construction and design

ftp commands

The following ftp commands are useful in this procedure:

- **binary:** Changes the ***ftp*** data transfer mode to the required binary mode.
- **cd**: Changes the target directory on the remote system
- **ls**: List file contents of current directory.
- **mget**: allows retrieval of multiple files on the remote system. For example, mget *.vbn will retrieve all VBN pages in the directory
- **mput**: allows placing of multiple files on the remote system (YWS).
- **prompt**: allows system to prompt before retrieving/deleting files. Default setting is "on," so enter this command only if you want to turn prompting off.

Enter **help** in ***ftp*** for a list of all available ***ftp*** commands.

Action

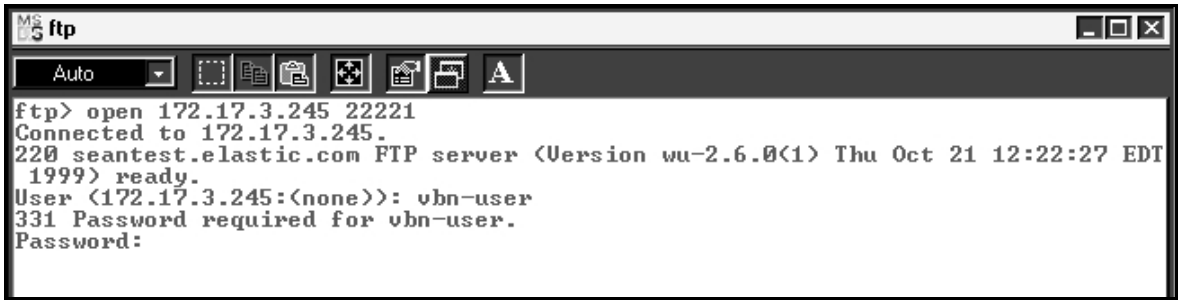
Step	Action
1	Start the ***ftp*** client application.
2	Open a connection to the YWS using port **22221**. After a few moments, the The system then prompts for a **"User:"** login. ***Note:*** Some workstation platforms (such as Windows NT) may require reconfiguration of *ftp* settings to use port 22221.
3	At the **User:** prompt, enter **vbn-user**. The system then prompts for a password. ***Note:*** Be certain to enter "vbn-user" and not "ftp-user." The **ftp-user** login is used only for retrieving SDR logs as described in Chapter 8.

—continued—

Procedure 10-1 (continued)
Creating the custom VBN web site

Step	Action
4	At the **Password:** prompt, enter the password of the **admin** user. This is the same password as the one used in the Elastic Operating Network (EON) to configure the YWS on the host network (see Chapter 3). The default **admin** password is **etherloop**. Figure 10-4 shows an example **ftp-user** login to a YWS at **172.17.3.245**.

Figure 10-4
Logging into the YWS using *ftp*



5	Use the **binary** command to change the ***ftp*** data transfer mode to the required binary mode.
6	Use the **cd** command to change to the **www** directory on the YWS. All VBN pages used on the YWS are contained in this directory.
7	Use the **ls** command to list the VBN pages.
8	Retrieve the VBN pages as required using the **get** or **mget** command.
9	Edit the VBN pages and create custom content according to the requirements described in this chapter.
10	Create the content for the Virtual Concierge as required, and configure the Virtual Concierge server as described in Procedure 10-2 on page 10-13.
11	Configure the service-provider branding and VBN home/splash page according to the requirements described in “Branding and home/splash page configuration” on page 10-7.
12	Use ***ftp*** to login to the YWS as the **vbn-user,** and use the **put** or **mput** command to place the customized VBN page content within the **www** directory.

STOP

You have completed this task.

Procedure 10-2
Configuring the Virtual Concierge

YesWare's **Virtual Concierge** feature enables service providers to create a host-specific site linked to the YWS and filled with free content and advertising. The VBN visitor can browse the Virtual Concierge for free to obtain information about local restaurants and host amenities, but will have to accept the payment terms and conditions to receive Internet access.

This procedure describes how to configure the YWS to support the **Virtual Concierge** feature.

Requirements

This procedure requires the following:

- Knowledge of HTML web page construction
- PC with web access to the YWS
- IP address of the Virtual Concierge server with free content

Action

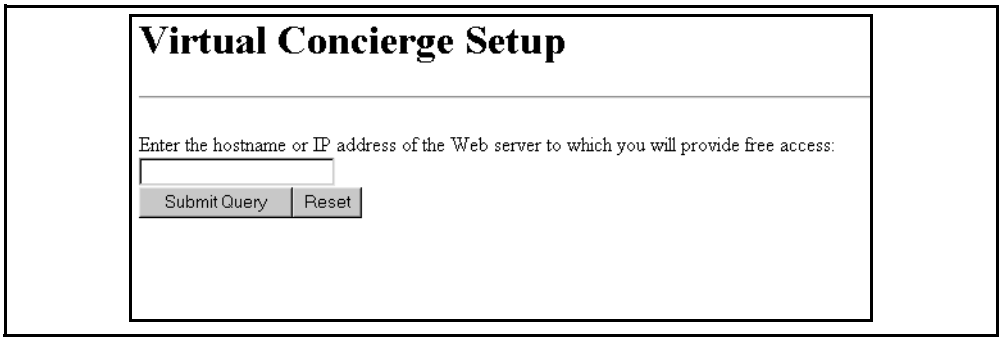
Step	Action
1	Browse to the YWS web interface, login and select the *InterProxy* module link.

—continued—

Procedure 10-2 (continued)
Configuring the Virtual Concierge

Step	Action
2	Click on the Virtual Concierge function link to launch the **Virtual Concierge Setup** dialog. See Figure 10-5.

Figure 10-5
Virtual Concierge Setup dialog


Virtual Concierge Setup
Enter the hostname or IP address of the Web server to which you will provide free access:
Submit Query
Reset

3	Enter the IP address of the Virtual Concierge web server that will provide the free content to YesWare visitors.
4	Add an HTML link to the Virtual Concierge server IP address on the VBN authentication page(s). See Procedure 10-1 on page 10-11 for the procedure to modify VBN authentication pages. ***Note:*** Service-providers can also simply provide the IP address of the Virtual Concierge server to visitors. Visitors can then browse to the Virtual Concierge site by entering the IP address when the authentication window appears.
5	When the visitor attempts to browse to any site other than the Virtual Concierge, the authentication page will reappear and require the visitor to authenticate before entering the Internet. Service providers may want to provide an "out-to-the-Internet" window/link to suggest this to visitors.

STOP

You have completed this task.

YesWare conference room and meeting services

This chapter describes the features, provisioning requirements and procedures available in YesWare to schedule and bill YesWare services in conference rooms using **Conference Room Billing**, and in meeting rooms using the port scheduling function of *Port Manager*.

Chapter topic list

This chapter includes the following topics.

Topic	See
Conference Room Billing	page 11-2
Port-based meeting scheduling and billing	page 11-12

Chapter task list

This chapter includes the following tasks:

Procedure	Task	See
11-1	Configuring Conference Room Billing	page 11-4
11-2	Scheduling conference room IP addresses	page 11-6
11-3	Configuring visitor computers for Conference Room Billing	page 11-10
11-4	Scheduling port-based meeting rooms	page 11-13

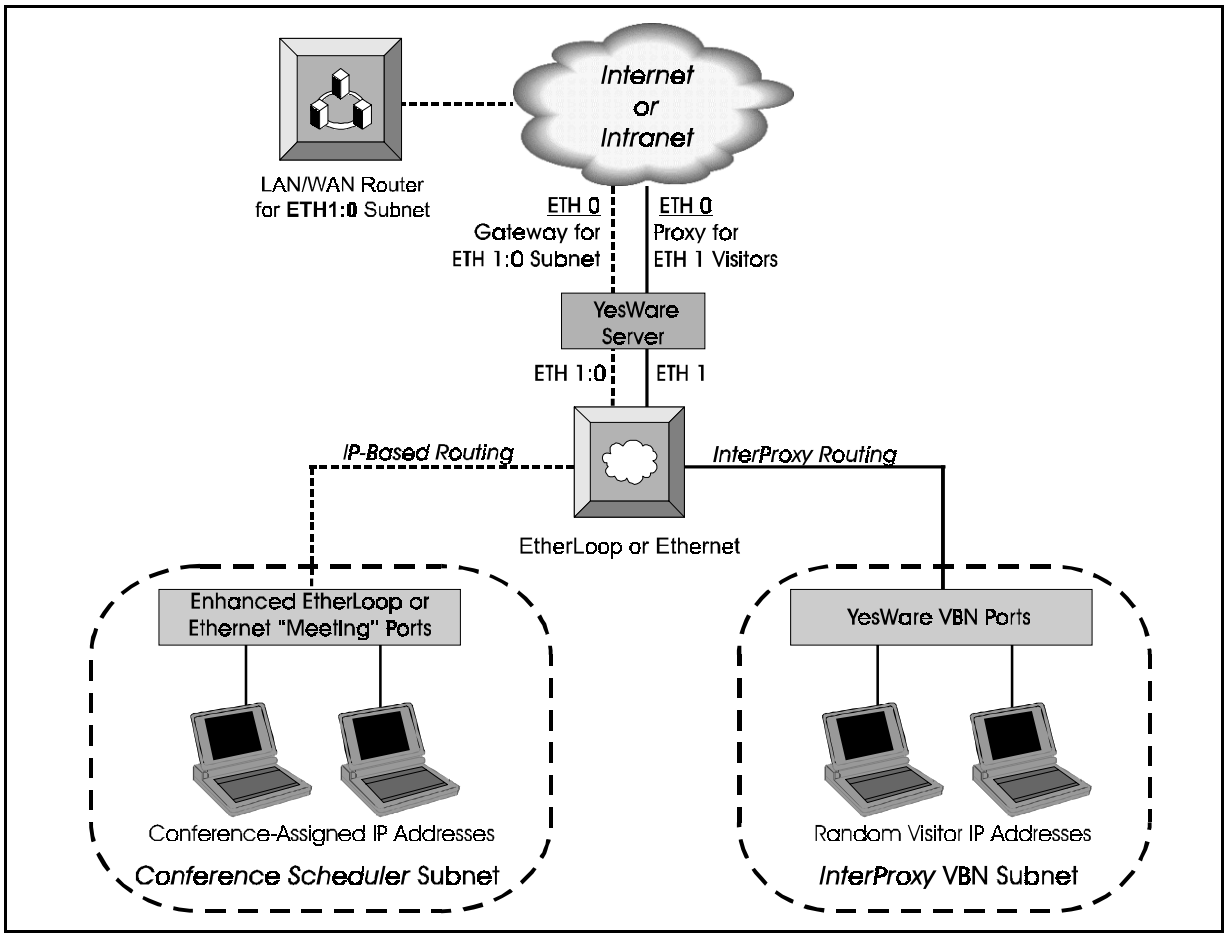
Conference Room Billing

Conference Room Billing is set up using the *Conference Scheduler* module. Conference Room Billing is IP-based conference room service for customers who do not want/need YesWare's network address translation (NAT) capability. The *Conference Scheduler* module allows visitors with static, routable IP addresses on the **ETH 1** side of the YWS to access the Internet without undergoing NAT.

Conference Scheduler network architecture

Figure 11-1 shows the architecture of the *Conference Scheduler* network. The *Conference Scheduler* module allows visitors from the VBN (**ETH 1)** side of the YWS to pass through the host network (**ETH 0)** side**,** and on to a LAN/WAN without receiving InterProxy services. The *Conference Scheduler* does this by creating a separate logical, routable network subnet using logical port **ETH 1:0**. The **ETH 0** interface serves as the subnet gateway and transmits *Conference Scheduler* attendee traffic to and from this subnet.

Figure 11-1
Conference Scheduler Network Architecture



Conference Room Billing using *Conference Scheduler*

The Conference Room Billing method uses Internet-routable IP addresses generated from an address pool using the *Conference Scheduler* module. These IP addresses must be purchased from the Internet service-provider (ISP) and re-sold for a flat fee by the service-provider. The *Conference Scheduler* generates a printable receipt to give to the customer and keep for provider records. The purchase price can be tracked using the receipts generated by the *Conference Scheduler* and through SDR logs (see Chapter 8).

> ***CAUTION - Conference Room Billing gives YesWare visitors unlimited system access***
>
> Conference Scheduler visitors are not required to authenticate to receive YesWare services. Because *Conference Scheduler* visitors are essentially on a separate logical network with Internet-routable IP addresses, visitors with a *Conference Scheduler*-generated IP address will have unlimited access to any YesWare-VBN system port for the scheduled conference period.
>
> Also, visitor computers receive no protection from the YWS firewall, so firewall protection must be implemented using other means.

Conference Scheduler administrator requirements

To provide conference services using the *Conference Scheduler*, the system administrator must have provisioned the Ethernet-VBN or Enhanced EtherLoop-VBN ports with "meeting" port use contexts as described earlier in this document. The "Location" fields in these ports provide the "Meeting Room" identifiers used by the *Conference Scheduler*.

In addition, the administrator must configure the conference room network using the *Conference Scheduler*. The YesWare administrator configuring the conference network must be familiar with LAN and WAN administration, particularly with setting up network subnets and working with routers.

- Procedure 11-1 on page 11-4 presents the steps to configure the IP-based conference network.

Conference Scheduler operator requirements

After the network is configured, a non-technical user can use the Book a Conference Room function to schedule conferences.

- Procedure 11-2 on page 11-6 presents the steps to book a conference room using *Conference Scheduler*.

Conference Scheduler visitor requirements

Visitors using the conference rooms set up in *Conference Scheduler* must configure their computers with an IP address configuration based on the *Conference Scheduler* subnet.

- Procedure 11-3 on page 11-10 shows how to configure visitor computers to use *Conference Scheduler* services.

Procedure 11-1
Configuring Conference Room Billing

The YesWare/LAN administrator must use this procedure to configure the network used by the *Conference Scheduler* to provide IP-based conference services.

Requirements

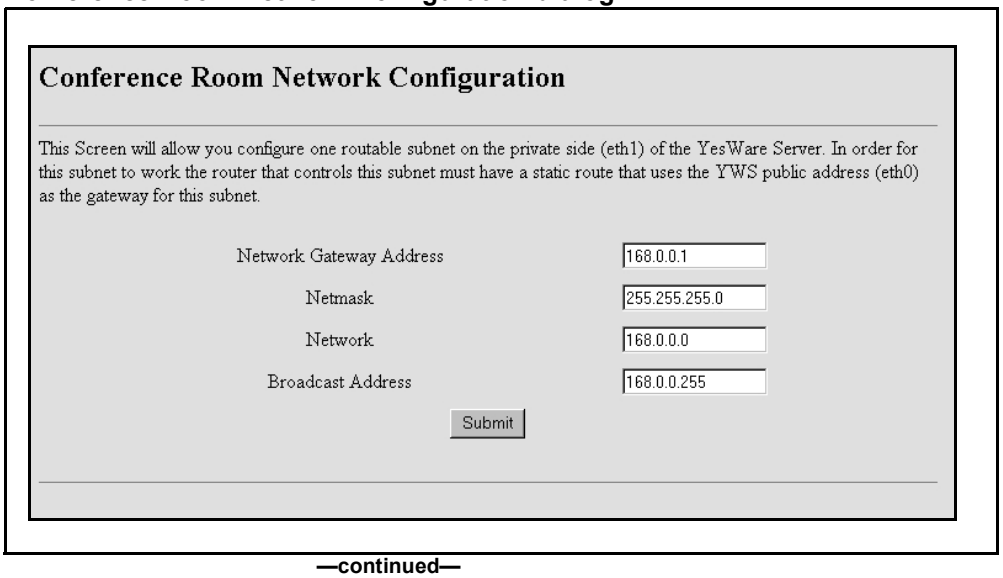
To set up the conference network using the *Conference Scheduler*, the YesWare/LAN administrator or service provider must provide the following:

- an available subnet with a range of static, Internet-routable IP addresses
- network and computer security plan for system visitors

Action

Step	Action
1	Add a route to the router that maintains the Conference Scheduler subnet (**ETH 1:0**) to use the **ETH 0** interface as its gateway.
2	Login to the YesWare Server and select the *Conference Scheduler* module from the main menu.
3	Select the Configure Conference Room Network function to launch the **Conference Room Network Configuration** dialog. Figure 11-2 shows this dialog with the default network settings.

Figure 11-2
Conference Room Network Configuration dialog


Conference Room Network Configuration
This Screen will allow you configure one routable subnet on the private side (eth1) of the YesWare Server. In order for this subnet to work the router that controls this subnet must have a static route that uses the YWS public address (eth0) as the gateway for this subnet.
Network Gateway Address
168.0.0.1
Netmask
255.255.255.0
Network
168.0.0.0
Broadcast Address
168.0.0.255
Submit

—continued—

Procedure 11-1 (continued)
Configuring Conference Room Billing

Step	Action

4 Complete the Conference Room Network Configuration dialog according to Table 11-1.

Table 11-1
Conference Room Network Configuration dialog settings

Field	Entry Description
Network Gateway Address	Enter the IP address of the network gateway used by the host network to access the WAN. This address is typically the first addressable IP address in the range. For example, in the Class C IP address range 172.17.10.0-172.17.10.255, the gateway address would typically be **172.17.10.1.** ***Note:*** Do NOT enter the IP address of **ETH 0** in this field. **ETH 0** serves only as an "internal" gateway for the **ETH 1:0** subnet, and cannot serve as a LAN gateway.
Netmask	Enter the network mask for the *Conference Scheduler* subnet. This address is typically **255.255.255.0**, **255.255.0.0**, or **255.0.0.0**.
Network	Enter the address of the *Conference Scheduler* subnet. All visitor IP addresses generated and used by the *Conference Scheduler* will come from this subnet. This address is typically the first IP address in the range. This address is typically the first addressable IP address in the range. For example, in the Class C IP address range 172.17.10.0-172.17.10.255, the network address would typically be **172.17.10.0.**
Broadcast Address	Enter the broadcast address for the *Conference Scheduler* subnet. This address is typically the last IP address in the range. For example, in the Class C IP address range 172.17.10.0-172.17.10.255, the broadcast address would typically be **172.17.10.255.**

5 Click the "Submit" button to configure the *Conference Scheduler* network.

You have completed this task.

Procedure 11-2
Scheduling conference room IP addresses

Use this procedure and the *Conference Scheduler* Book a Conference Room function to schedule conference meeting rooms.

Requirements

YesWare operators that book conference rooms in *Conference Scheduler* must have the following provided to them:

- *Conference Scheduler* meeting rooms provisioned and available

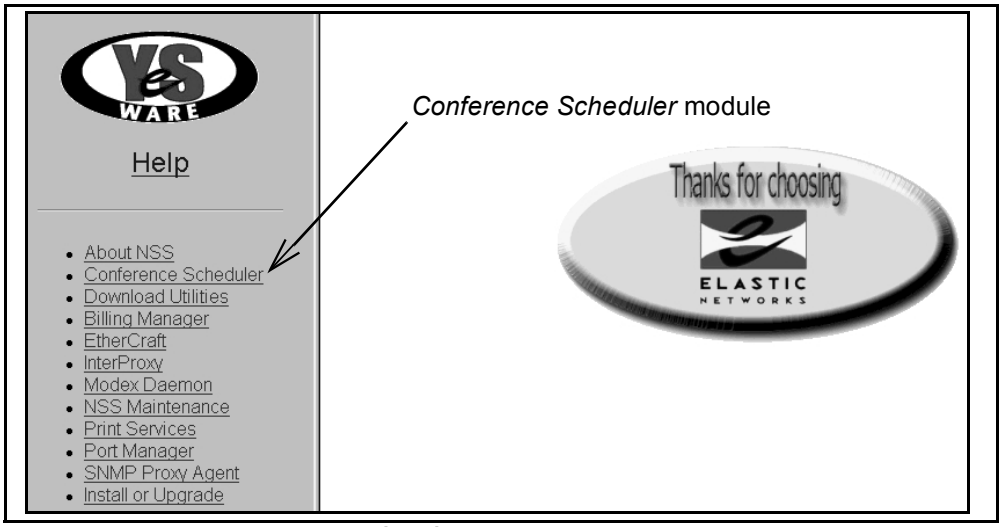
  Note: *Conference Scheduler* "meeting rooms" are Ethernet-VBN or Enhanced EtherLoop-VBN ports installed and provisioned with **meeting** port use contexts as described in this document.

- Price schedule with rates provided for conference durations and number of IP addresses
- Login name and password for the YesWare Server

Action

Step	Action
1	Browse to the IP address of the YesWare Server for the site and login. Use the login name and password provided by the YesWare administrator.
2	Click on the *Conference Scheduler* link on the left pane of the YesWare main screen (see Figure 11-3).

Figure 11-3
YesWare *Conference Scheduler* module

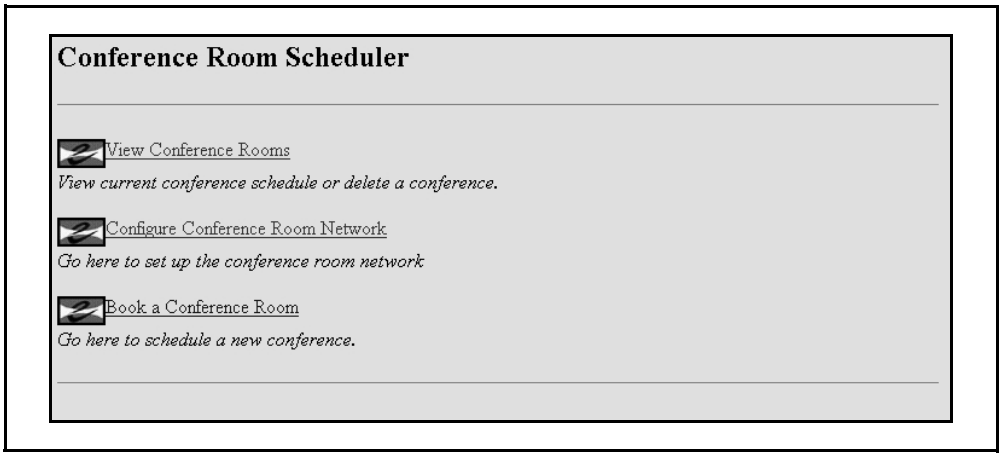


—continued—

Procedure 11-2 (continued)
Scheduling conference room IP addresses

Step	Action
	After clicking on the *Conference Scheduler* link, the **Conference Room Scheduler** main page should appear as shown in Figure 11-4.

Figure 11-4
Conference Room Scheduler main page

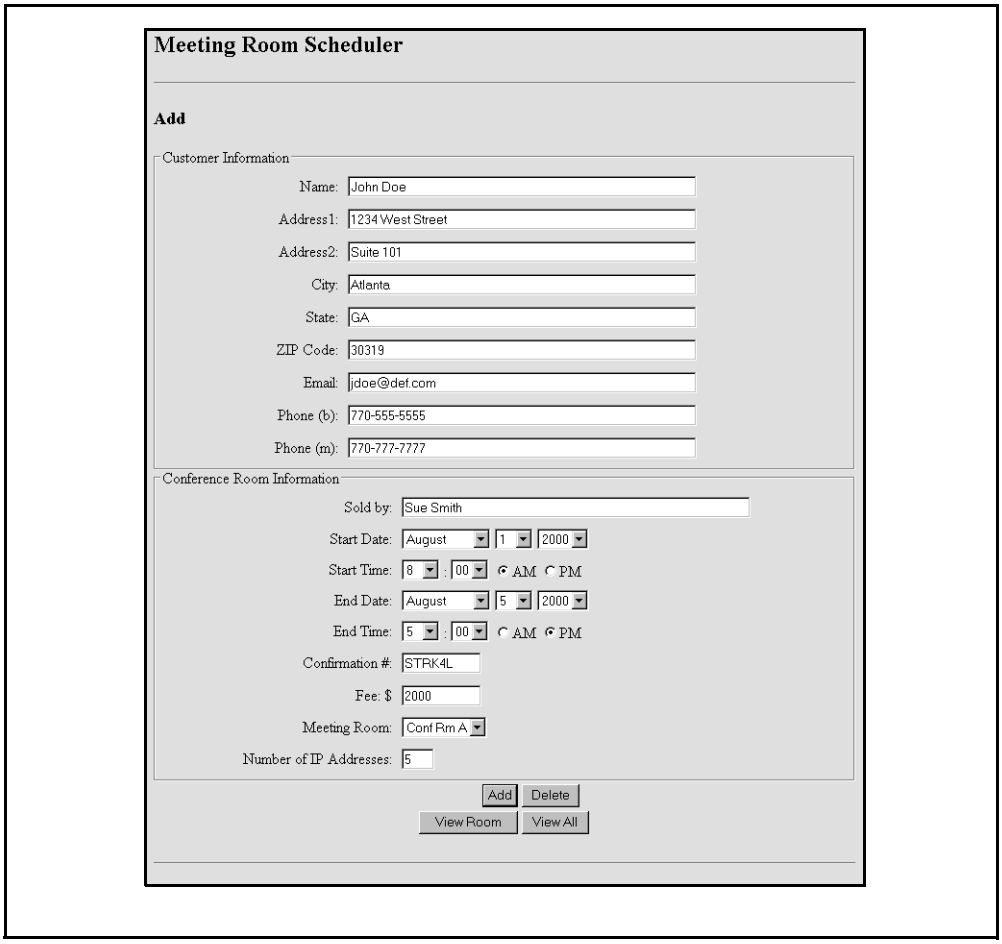

Conference Room Scheduler
View Conference Rooms
View current conference schedule or delete a conference.
Configure Conference Room Network
Go here to set up the conference room network
Book a Conference Room
Go here to schedule a new conference.

—continued—

Procedure 11-2 (continued)
\Scheduling conference room IP addresses

Step	Action
3	In the **Conference Room Scheduler** main page, click on the Book a Conference Room link. The **Meeting Room Scheduler** dialog should appear.
4	Complete the information required for the customer and conference room in the **Meeting Room Scheduler** dialog. Figure 11-5 shows an example of a completed **Meeting Room Scheduler** dialog.

Figure 11-5
Meeting Room Scheduler dialog



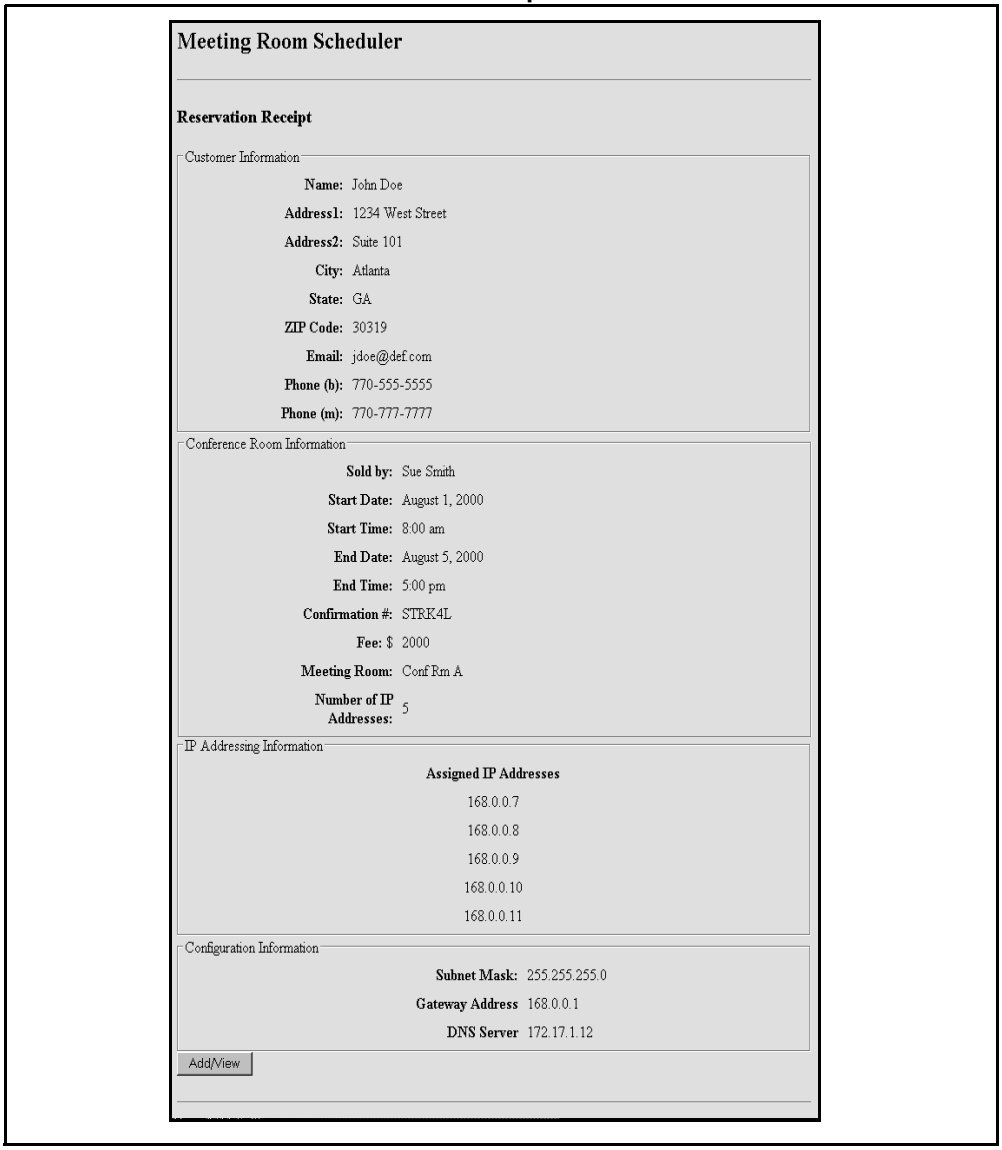
5 Click the "Add" button to add the meeting room to the conference schedule. The system will display an **Add-Confirmation** dialog. Verify the information is correct and click the "Add It" button.

—continued—

Procedure 11-2 (continued)
Scheduling conference room IP addresses

Step	Action
6	After clicking the "Add It" button, the system will generate a **Reservation Receipt** as shown in Figure 11-6. Accept payment and give the customer the Reservation Receipt according to local office administration procedures.

Figure 11-6
Conference Scheduler Reservation Receipt



STOP

You have completed this task.

Procedure 11-3
Configuring visitor computers for Conference Room Billing

Use this procedure to configure the visitor computers to use *Conference Scheduler* services and Conference Room Billing.

> ***Note:*** This procedure presents the visitor configuration using a Windows 95 PC. The configuration requirements of other network operating systems will vary, but the basic procedure should be the same.

Requirements

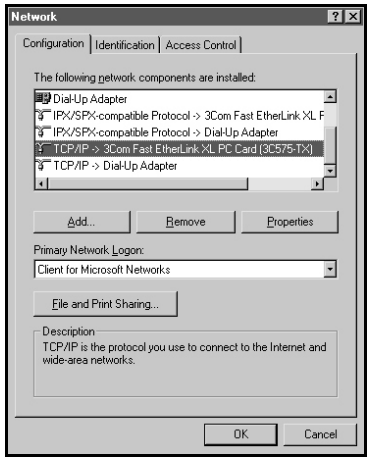
This procedure requires the following:

- Visitor computer with an Ethernet 10Base-T network interface card (NIC) and networking capabilities ("Network Neighborhood") installed
- TCP/IP protocol specified in the visitor computer Network/Configuration settings dialog and used by the Ethernet NIC
- "Reservation Receipt" generated by the **Meeting Room Scheduler** as described in Procedure 11-2 on page 11-6

Action

Step	Action
1	Right-click on the **Network Neighborhood** icon on the visitor PC and select "Properties" from the pop-up menu. The **Network** dialog appears with the Configuration tab open as shown in Figure 11-7.

Figure 11-7
Network dialog and Configuration tab

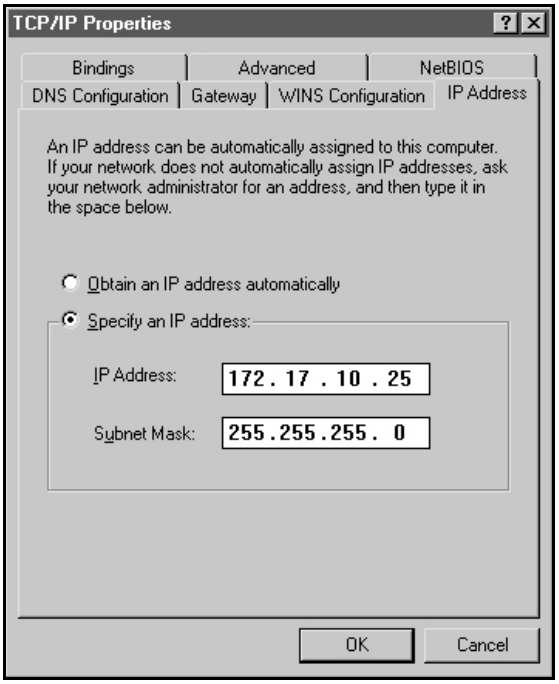


—continued—

Procedure 11-3 (continued)
Configuring visitor computers for Conference Room Billing

Step	Action
2	Select the TCP/IP protocol associated with the Ethernet NIC and click the "Properties" button. *The Network TCP/IP Properties dialog appears as shown in Figure 11-8.*

Figure 11-8
Network TCP/IP Properties dialog


TCP/IP Properties
Bindings
Advanced
NetBIOS
DNS Configuration
Gateway
WINS Configuration
IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.
Obtain an IP address automatically
Specify an IP address:
IP Address:
172 . 17 . 10 . 25
Subnet Mask:
255 . 255 . 255 . 0
OK
Cancel

3	In the **IP Address** tab, specify an IP address and Subnet Mask for the visitor computer. The IP address must come from the pool of addresses on the Reservation Receipt generated by the Meeting Room Scheduler. The Subnet Mask must also be the one listed on the Reservation Receipt.
4	In the **Gateway** tab, add the network gateway from the Reservation Receipt.
5	If necessary, enable DNS and enter the host and domain name for the visitor computer provided by the network administrator. Also, add the DNS nameserver IP address listed on the Reservation Receipt.
6	Click OK to accept the TCP/IP and Network Configuration settings, and re-start the visitor computer. The visitor computer should be ready to connect to the scheduled conference meeting room.

STOP

You have completed this task.

Port-based meeting scheduling and billing

Port-based meeting service is set up by turning on and off ports using the Schedule Conference Room Ports function in the **Ethernet Switch and Port Provisioning** section of *Port Manager*. This feature uses Authorization Code Billing as its billing method. This section describes the requirements to set up Port-based conference room billing.

Port-based conference billing

Port-based conference billing is based on the billing rates set up in the *Billing Manager* module. Visitors are authenticated and billed using Authorization Codes generated for the meeting port(s).

Administrator requirements for port-based conference services

To provide conference services using the Schedule Conference Room Ports function, the YesWare system administrator must have provisioned the Ethernet-VBN or Enhanced EtherLoop-VBN conference room ports with "meeting" port use contexts as described earlier in this document.

Operator requirements for port-based conference services

After the meeting ports are provisioned, a non-technical user can use the Schedule Conference Room Ports function to schedule conferences.

- Procedure 11-4 on page 11-13 presents the steps to book a conference room using the Schedule Conference Room Ports function.

Visitor requirements for port-based conference services

General visitor requirements for port-based conference services are the same as for all other YesWare VBN services. The "meeting" port use context used in port-based conference room billing requires the user to submit a valid Authorization Code to access YesWare services.

Procedure 11-4
Scheduling port-based meeting rooms

Use this procedure to schedule conference meeting rooms using the Schedule Conference Room Ports in the **Ethernet Switch and Port Provisioning** section of *Port Manager*.

Requirements

YesWare operators that book port-based conference rooms must have the following provided to them:

- Meeting room ports provisioned and available

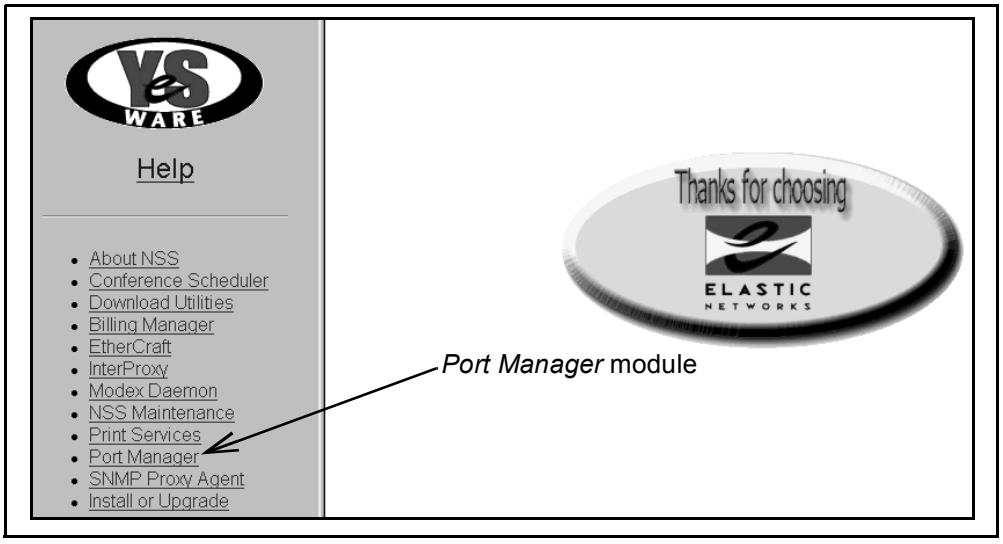
  Note: "Meeting room ports" are Ethernet-VBN or Enhanced EtherLoop-VBN ports installed and provisioned with "meeting" port use contexts as described in this document.

- Login name and password for the YesWare Server

Action

Step	Action
1	Browse to the IP address of the YesWare Server for the site and login. Use the login name and password provided by the YesWare administrator.
2	Click on the *Port Manager* link on the left pane of the YesWare main screen (see Figure 11-9).

Figure 11-9
YesWare *Port Manager* module



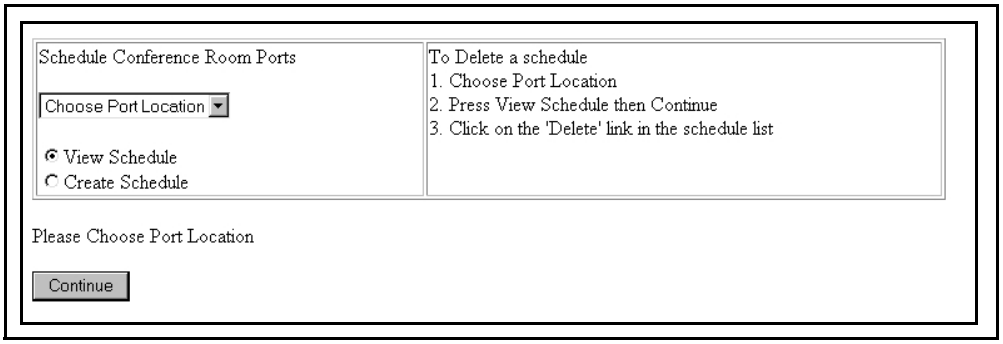
—continued—

Procedure 11-4 (continued)
Scheduling port-based meeting rooms

Step	Action

3 In Port Manager, scroll down to the **Ethernet Switch and Port Provisioning** section and click on the Schedule Conference Room Ports link. The **Schedule Conference Room Ports** dialog should appear as shown in Figure 11-10.

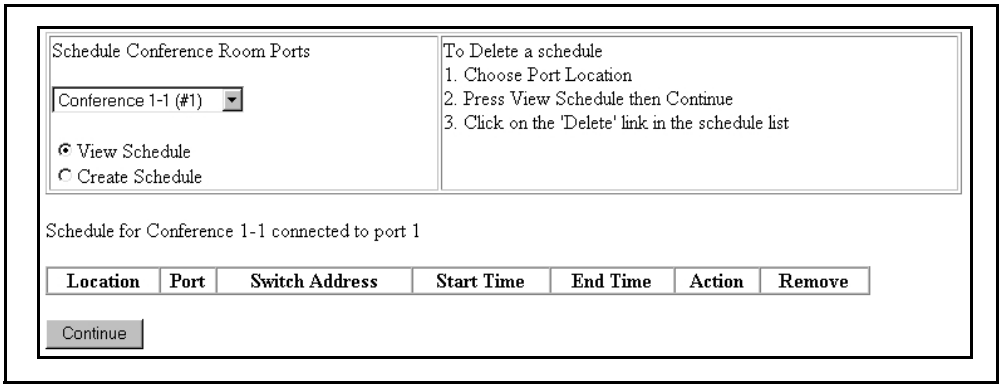
Figure 11-10
Schedule Conference Room Ports dialog


Schedule Conference Room Ports
Choose Port Location
View Schedule
Create Schedule
To Delete a schedule
1. Choose Port Location
2. Press View Schedule then Continue
3. Click on the 'Delete' link in the schedule list
Please Choose Port Location
Continue

4 Click on the "Choose Port Location" pull-down menu and select a port to schedule.

5 To view any existing schedule for a selected port, select the "View Schedule" button and click "Continue." Figure 11-11 shows that the example Conference Room 1-1 (port #1) has no existing schedule.

Figure 11-11
View Port



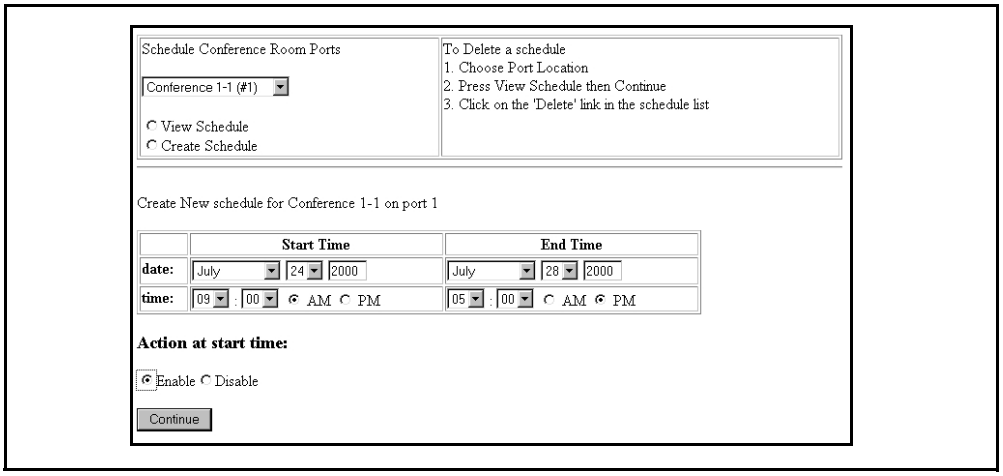
6 To create a schedule for a port, select the "Create Schedule" button and click "Continue." The **Create New schedule for [conference room/port]** dialog appears.

—continued—

Procedure 11-4 (continued)
Scheduling port-based meeting rooms

Step	Action
7	In the **Create New schedule for [conference room/port]** dialog, complete the "Start Time" and "End Time" information required for the conference room port. Also, select the "Action at start time" to perform on the port (Enable/Disable). Figure 11-12 shows an example of a completed **Create New schedule for [conference room/port]** dialog for port #1 on Conference Room 1-1.

Figure 11-12
Create New schedule for [conference room/port] dialog

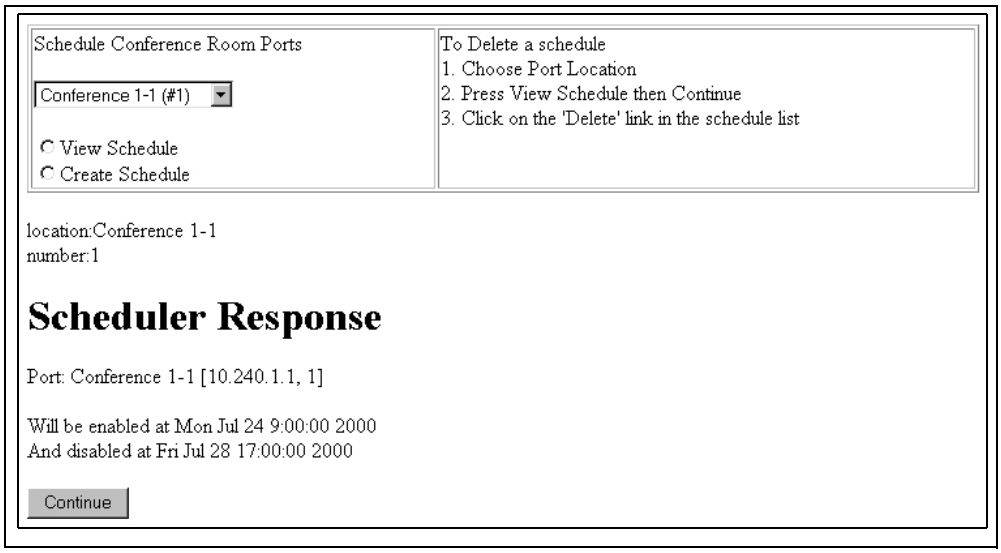


—continued—

Procedure 11-4 (continued)
Scheduling port-based meeting rooms

Step	Action
8	Click the "Continue" button to create the port schedule. The system will display an **Scheduler Response** dialog. Figure 11-13 shows an example of the **Scheduler Response** dialog for the schedule illustrated in Figure 11-12 on page 11-15.

Figure 11-13
Scheduler Response dialog

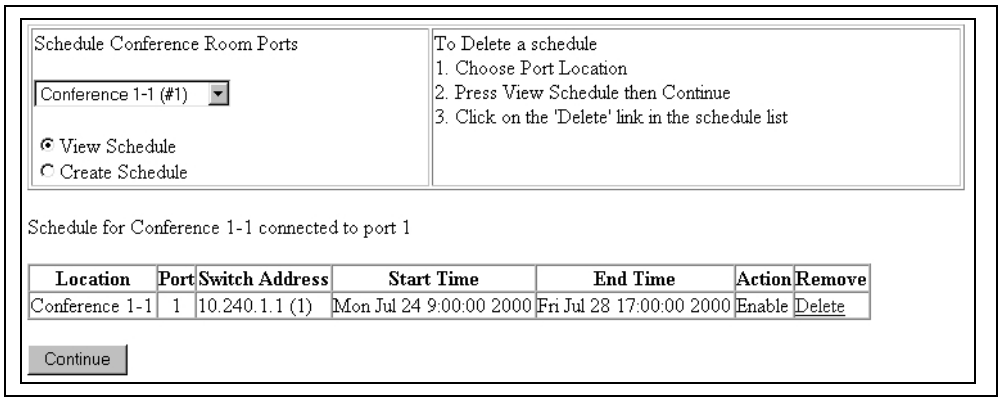

Schedule Conference Room Ports
Conference 1-1 (#1)
View Schedule
Create Schedule
To Delete a schedule
1. Choose Port Location
2. Press View Schedule then Continue
3. Click on the 'Delete' link in the schedule list
location:Conference 1-1
number:1
Scheduler Response
Port: Conference 1-1 [10.240.1.1, 1]
Will be enabled at Mon Jul 24 9:00:00 2000
And disabled at Fri Jul 28 17:00:00 2000
Continue

—continued—

Procedure 11-4 (continued)
Scheduling port-based meeting rooms

Step	Action
9	Verify the information is correct in the **Scheduler Response** dialog and click the "Continue" button to create the schedule for the port.
10	Select the "View Schedule" button and click "Continue" to verify the schedule created for the conference room and port. Figure 11-14 shows the example schedule created for port #1 on Conference Room 1-1.

Figure 11-14
Example port schedule



11	Repeat the steps in this procedure for all required conference room ports.

STOP

You have completed this task.

Providing visitor printing services

This chapter describes the requirements, functions and procedures for using the *Print Services* module to provide visitor printing services.

Chapter topic list

This chapter includes the following topics.

Topic	See
YesWare's Print Services module	page 12-2
Print Services printer requirements and limitations	page 12-4
Print Services visitor billing	page 12-5

Chapter task list

This chapter includes the following tasks:

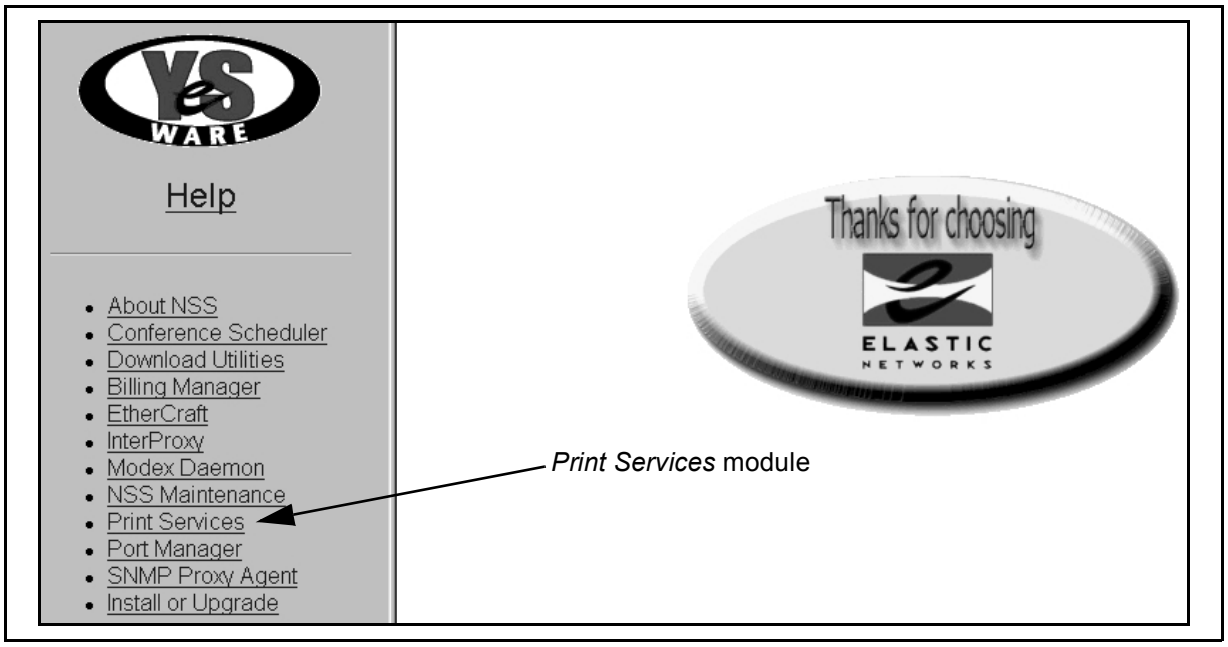
Procedure	Task	See
12-1	Provisioning visitor printing services	page 12-6
12-2	Using visitor printing services	page 12-15

YesWare's *Print Services* module

The YesWare *Print Services* module gives guest visitors the capability of printing from their computer to a networked printer on the YesWare VBN or host network.

Figure 12-1 shows the *Print Services* module link on the YesWare main page. The following sections describe the requirements and functions for using the YesWare *Print Services* module.

Figure 12-1
YesWare *Print Services* module



Print Services visitor printing requirements

To use visitor printing services, the hospitality facility must have the following:

- YesWare Server (YWS) installed and configured as an Ethernet-TCP/IP node on the host LAN and integrated with the facility PMS system as described earlier in this document
- VBN system ports provisioned using either **Enhanced Modem Billing** or **Ethernet Port Billing**
- visitor room ports provisioned as **guest** Port Use Context
- at least one networkable PostScript printer installed and configured as an Ethernet-TCP/IP node on the same host LAN as the YWS **ETH 0** interface, or on the same LAN segment as the YWS **ETH 1** interface

Procedure 12-1 on page 12-6 describes how to use the *Print Services* module to configure the YWS for visitor printing services.

Print Services module functions

Figure 12-2 shows the functions on the *Print Services* main page. Table 12-1 describes the purpose of each of these functions.

Figure 12-2
***Print Services* main page**

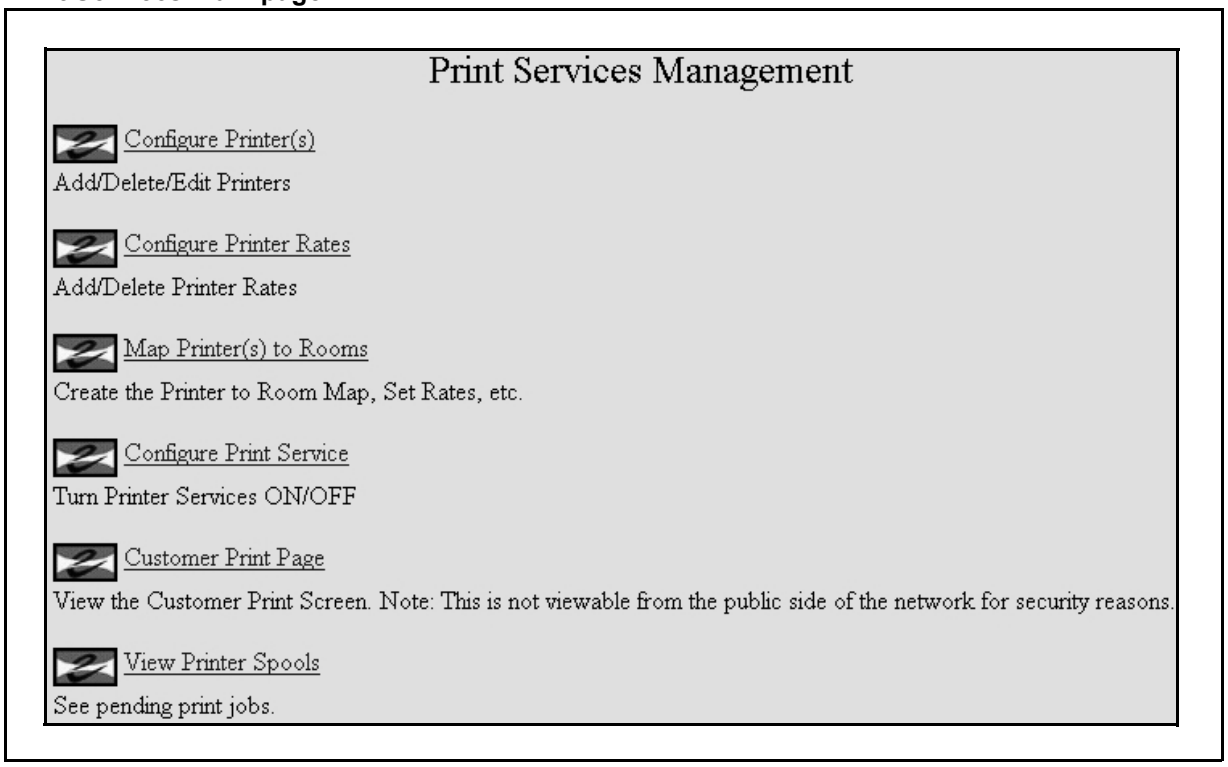

Print Services Management
Configure Printer(s)
Add/Delete/Edit Printers
Configure Printer Rates
Add/Delete Printer Rates
Map Printer(s) to Rooms
Create the Printer to Room Map, Set Rates, etc.
Configure Print Service
Turn Printer Services ON/OFF
Customer Print Page
View the Customer Print Screen. Note: This is not viewable from the public side of the network for security reasons.
View Printer Spools
See pending print jobs.

Table 12-1
Print Services module functions

Function	Description
Configure Printer(s)	This function sets the printer name, Network IP address, location, and space for descriptive comments about the printer.
Configure Printer Rates	This function sets the rates charged for printing services. The default rate is 0.00.
Map Printer(s) to Rooms	This function links the visitor rooms to the configured printers, allowing the administrator to set rates specific to each printer.
Configure Print Service	This function allows the administrator to turn visitor printing services on or off (system-wide). The default setting is "Off."
Customer Print Page	This function is used by visitors for printing services over **ETH 1**, and is not reachable from the **ETH 0** side of the network.
View Printer Spools	This function allows the administrator to view pending print jobs in the print queue.

Print Services printer requirements and limitations

The *Print Services* module can be configured to support up to five networked printers. The following sections describe the requirements and limitations for the printers used with the Print Services module.

Printer requirements

Printers supported by the YesWare *Print Services* module must meet the following requirements:

- Ethernet LAN support using the TCP/IP networking protocol
- PostScript or PCL printer description language support

  Note: Hewlett-Packard PCL printer language is supported, but is not as easy to administer using *Print Services*. See "Print Services visitor billing" on page 12-5 for more information.

Printer limitations

The YesWare *Print Services* module does not support the following:

- external, dedicated print-servers such as ***Jet Direct*** print servers
- "Win" printers designed specifically for the ***Windows*** platform (95/98/2000/NT)

Printer administrator requirements

The printer administrator for visitor printing services must know the level, version and driver-compatibility requirements of the PostScript or PCL language used by the printers.

> ***IMPORTANT - All users must know printer-driver requirements***
> Printer-driver compatibility requirements **MUST** be communicated to the hospitality front-desk personnel and visitors. YesWare visitor printing services **WILL NOT FUNCTION** if the printer drivers on visitor computers are not compatible with the facility printers.

Providing driver files

To eliminate the potential for system problems, the administrator or service-provider may want to provide driver files to visitors that are compatible with the facility printers. In addition, the *Print Services* visitor printing page has HTML links to the **Adobe Systems** and **Hewlett-Packard** web sites. YesWare visitors can download free PostScript printer drivers from the Adobe site, and free PCL printer drivers from the Hewlett-Packard site.

Print Services visitor billing

Only YesWare visitors connected to "guest" ports can browse to the printing services page and use (and be billed for) visitor printing services. YesWare visitors who use visitor printing services are billed for both YesWare Internet access and printing services.

Print Services billing method

As described in Chapter 1, the guest Port Use Context allows visitors to bill YesWare Internet access to their rooms through the PMS, or be billed "up-front" by purchasing an Authorization Code. The *Print Services* module bills visitors for printing services using the facility PMS. Charges incurred for printing services appear on the room bill of the visitor separate from any YesWare Internet access charges, or in addition to any Authorization Code fees.

Visitors can use *Print Services* to print PostScript or PCL file types on the host facility printer. Each of these file types is billed differently, as described in the following sections.

Visitor PostScript file billing

The *Print Services* feature works best with PostScript printers and drivers. Visitors who print PostScript files are billed on a per-page basis and are charged based on the rate configured using the Configure Printer Rates function. For example, if a visitor prints a 20-page PostScript file at a host facility where the configured rate is 1.00, a "room charge" of $20.00 will be generated in the facility PMS (in addition to any other room charges).

Visitor PCL file billing

Host facilities that choose to use Hewlett Packard PCL printers and drivers with *Print Services* must carefully calculate the rate charged for visitor printing services. The *Print Services* module cannot bill visitors using PCL printer drivers on a per-page basis. If PCL printers and drivers are used, the *Print Services* / Configure Printer Rates function bills visitors on a per-job basis. The room charge is the same whether the visitor prints a 20-page file or a 2-page file. PCL also imposes a file size maximum of 100 MB on all print jobs.

To effectively set the service-rate charge for PCL files, the *Print Services* administrator must evaluate how much the service is used. Because, for example, if a user prints a 20-page PCL file at a host facility where the configured rate is 1.00, *Print Services* will generate a PMS "room charge" of $1.00. If the same visitor then sends a 2-page file to the *Print Services* printer, the "room charge" again will be $1.00. Therefore, the administrator must set a rate that attempts to account for an "average" number of pages in a "typical" visitor document.

Procedure 12-1
Provisioning visitor printing services

Use this procedure to provision visitor printing services using the *Print Services* module. This procedure is divided into the following major tasks:

Task	Steps
Configuring Printer(s)	1 to 8
Setting rates for printing services	9 to 12
Assigning printers and rates to guest rooms	13 to 16
Starting visitor printing services	17 to 18
Testing visitor printing services	19

Requirements

To configure *Print Services*, the system administrator must have at least one networkable printer connected to a specific IP address. The IP address can be on the VBN (**ETH 1**) or host network (**ETH 0**) side of the network.

Action

Step **Action**

Configuring Printer(s)

1 Select the rooms to receive printing services. Provision these rooms with **guest** Port Use Contexts as described in this document.

2 Install a networkable printer onto the **ETH 0** (host LAN) or **ETH 1** (VBN) side of the YWS system. Configure the printer according to the following table:

If the printer is installed on	Then
ETH 0	configure the printer on the host LAN according to standard Ethernet TCP/IP networking procedures
ETH 1	• configure the printer with an IP address on the **ETH 1** subnet. ***Note:*** Be sure not to conflict with any significant YesWare IP addresses such as the DHCP range or Ethernet switch IP addresses. • configure IP address of the **ETH 1** interface as the printer's network gateway • configure the network mask of the **ETH 1** interface set as the printer's subnet mask

—continued—

Procedure 12-1 (continued)
Provisioning visitor printing services

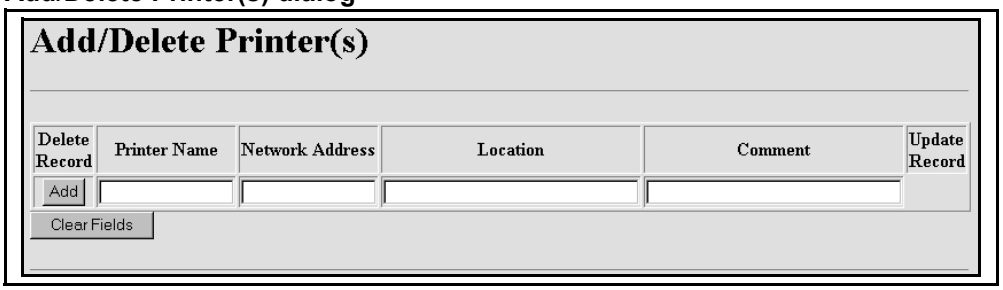
Step	Action

3 Login to the YesWare Server and select the *Print Services* module from the main menu.

4 Select the Configure Printer(s) function to launch the **Add/Delete Printer(s)** dialog. Figure 12-3 shows this dialog with no printers configured.

Note: If this dialog is completely blank (has no text-entry fields), it means that no guest rooms have been provisioned.

Figure 12-3
Add/Delete Printer(s) dialog

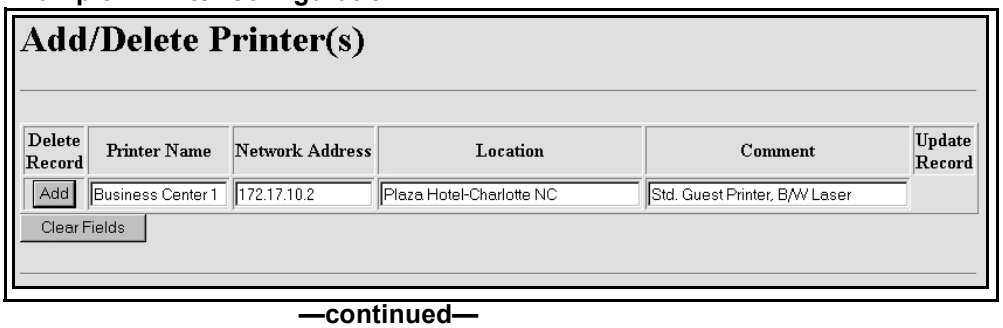


5 Enter the required information for the printer according to the specifications listed in Table 12-2. Figure 12-4 shows an example printer configuration.

Table 12-2
Printer configuration field entry specifications

Entry field	Entry specification
Printer Name	Local facility name for the printer
Network Address	IP address assigned to the printer
Location	Facility name and location and/or physical location of printer
Comment	Type of printer or other service notes

Figure 12-4
Example / Printer configuration



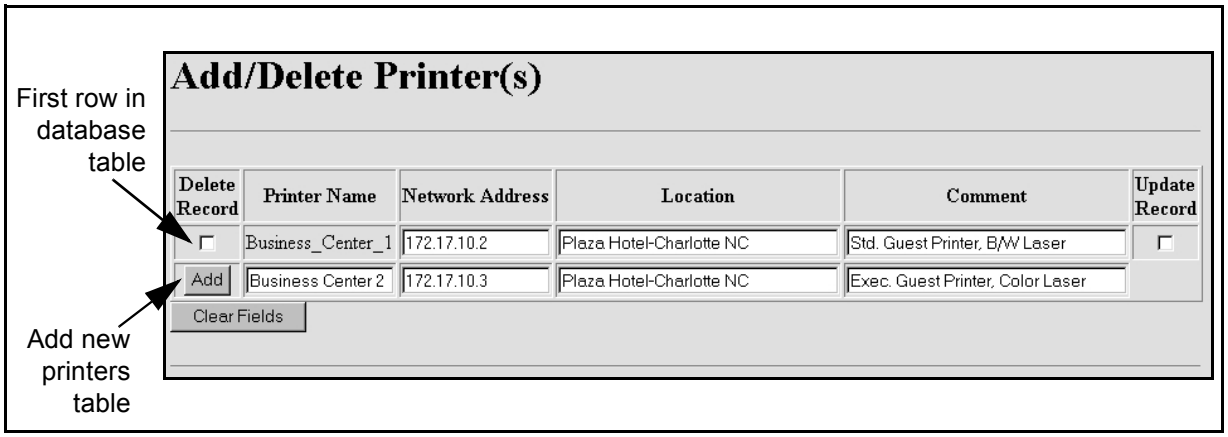
—continued—

Procedure 12-1 (continued)
Provisioning visitor printing services

Step	Action
6	Click the "Add" button to add the printer configuration to the database. After a few moments, the system should display the printer configuration in the "database table" above the "Add" fields as shown in Figure 12-5. ***Note:*** To save re-entering the same information for additional printers, the text-entry fields in the table used to add new printers do not clear when a printer is added. To clear the text-entry fields, click the "Clear Fields" button.

> ***Caution - "Delete Record" checkbox usage***
> Clicking **once** on the "Delete Record" checkbox (see Figure 12-5) immediately removes a printer record from the database, whthout a prompt. If you accidentally click the "Delete Record" checkbox, clicking the "Back" button of your web-browser will restore the previous page and allow you to continue.

Figure 12-5
Example / First printer added to database



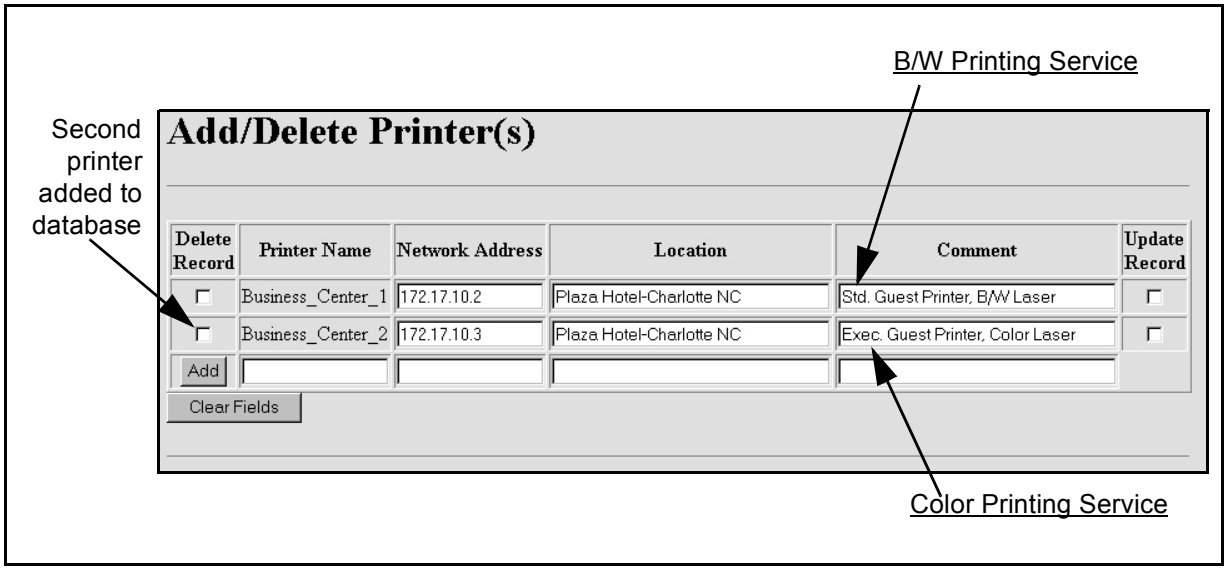
—continued—

Procedure 12-1 (continued)
Provisioning visitor printing services

Step	Action
7	Repeat steps 5 and 6 for up to five printers. Each additional printer will be added in the database table beneath the first printer configured. Figure 12-6 shows a second printer added in the database table and with the "add" fields cleared.

Editing printer configurations
To change the configuration for a previously-configured printer, make the required changes in the database table entry fields and click **once** on the "Update Record" checkbox.

Figure 12-6
Example / Second printer added to database



8	Click the **Print Services** module link to return to the *Print Services* main page.

—continued—

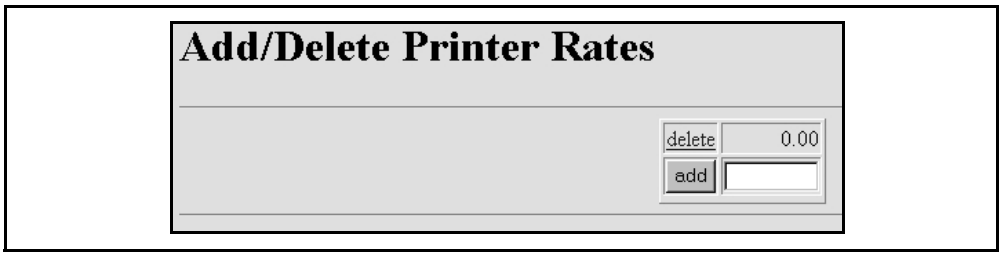
Procedure 12-1 (continued)
Provisioning visitor printing services

Step	Action

Setting rates for printing services

9 From the *Print Services* module main page, select the Configure Printer Rates function to launch the **Add/Delete Printer Rates** dialog. Figure 12-7 shows this dialog with only the default "0.00" rate configured.

Figure 12-7
Default Add/Delete Printer Rates dialog

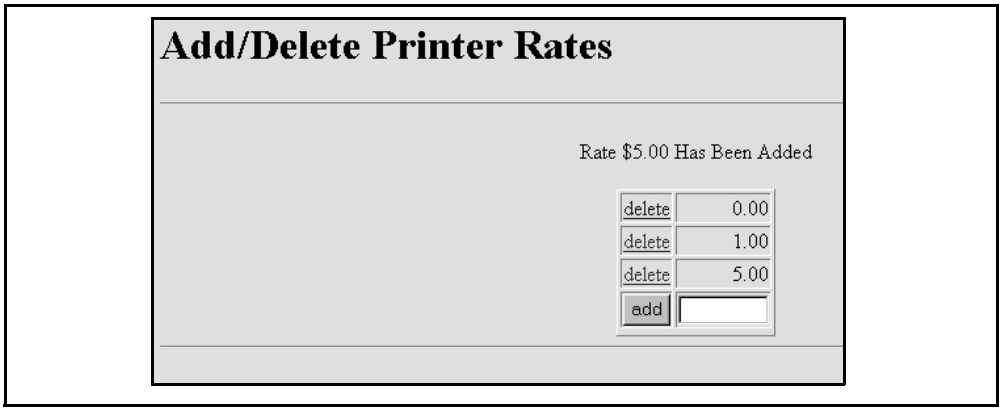


10 Enter the desired rate for printing services in the text-entry field, and click the "add" button.

Note: Rates must be entered in the 0.00 format. For example, a rate of 10 is not acceptable, but must be entered as 10.00.

11 Repeat step 10 to assign rates for as many service types as required (such as separate rates for color printing, B/W printing, transparency printing). Figure 12-8 shows Configure Printer Rates function to launch the **Add/Delete Printer Rates** dialog with two rates configured.

Figure 12-8
Example / Add/Delete Printer Rates dialog



12 Click the **Print Services** module link to return to the *Print Services* main page.

—continued—

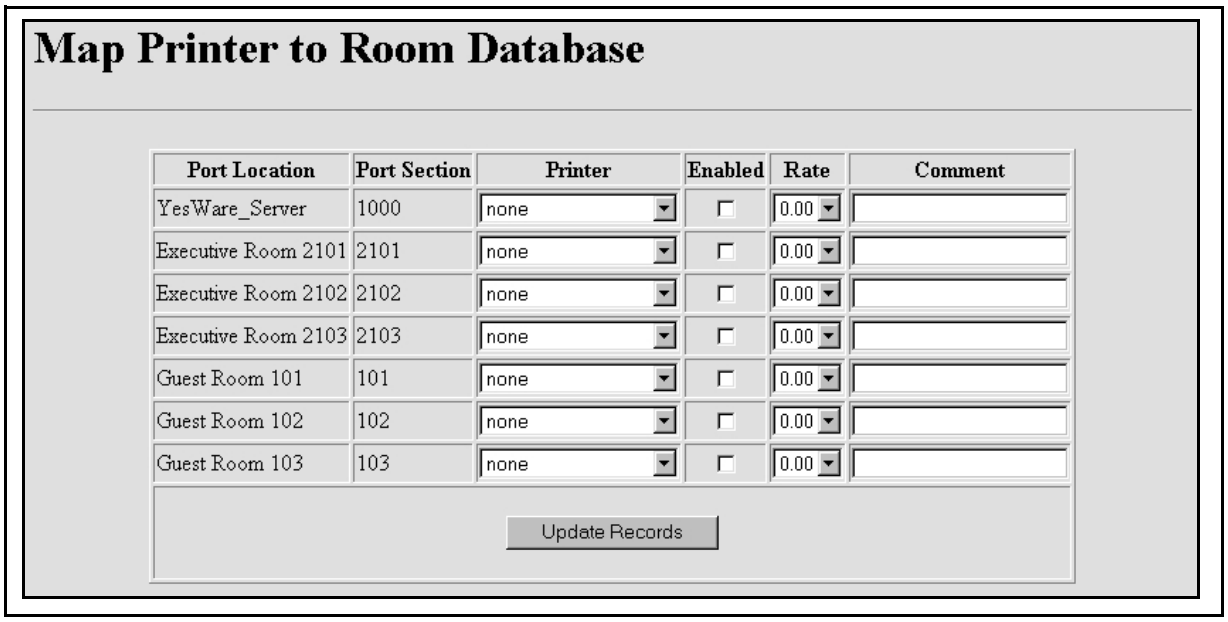
Procedure 12-1 (continued)
Provisioning visitor printing services

Step	Action

Assigning printers and rates to guest rooms

13 From the *Print Services* module main page, select the Map Printer(s) to Rooms function to launch the **Map Printer to Room Database** dialog. Figure 12-7 shows the default dialog with several example guest rooms configured.

Figure 12-9
Example / Default "Map Printer to Room Database" dialog



—continued—

Procedure 12-1 (continued)
Provisioning visitor printing services

Step	Action

14 Use the pulldown lists and checkboxes in this dialog to assign and enable printers and rates according to facility requirements and as described in Table 12-3.

Table 12-3
Map Printer to Room Database dialog entries

Field	Field Type / Entry Specification
Port Location	Display Only / This field is drawn from the "Port Location" entry provisioned during port configuration for the Ethernet switch port or EtherLoop modem port
Port Section	Display Only / This field is drawn from the "Port Section" entry provisioned during port configuration for the Ethernet switch port or EtherLoop modem port
Printer	Pull-Down List / Use this field to assign the previously-configured printers to guest rooms. A room can only have one printer assigned. The YWS can have a printer assigned but cannot be billed
Enabled	Checkbox / This box must be checked to enable the printer to provide printing services.
Rate	Pull-Down List / Use this field to assign the previously-configured rates to guest rooms. A room can only have one rate assigned. If the YWS is assigned a printer, it should use the default rate of 0.00.
Comment	Text Entry / Entries in this field should reflect the type of service provided to the room, such as "Color Inkjet" or "B/W Laser."

15 Click the "Update Records" button to set the room/printer assignments in the system database.

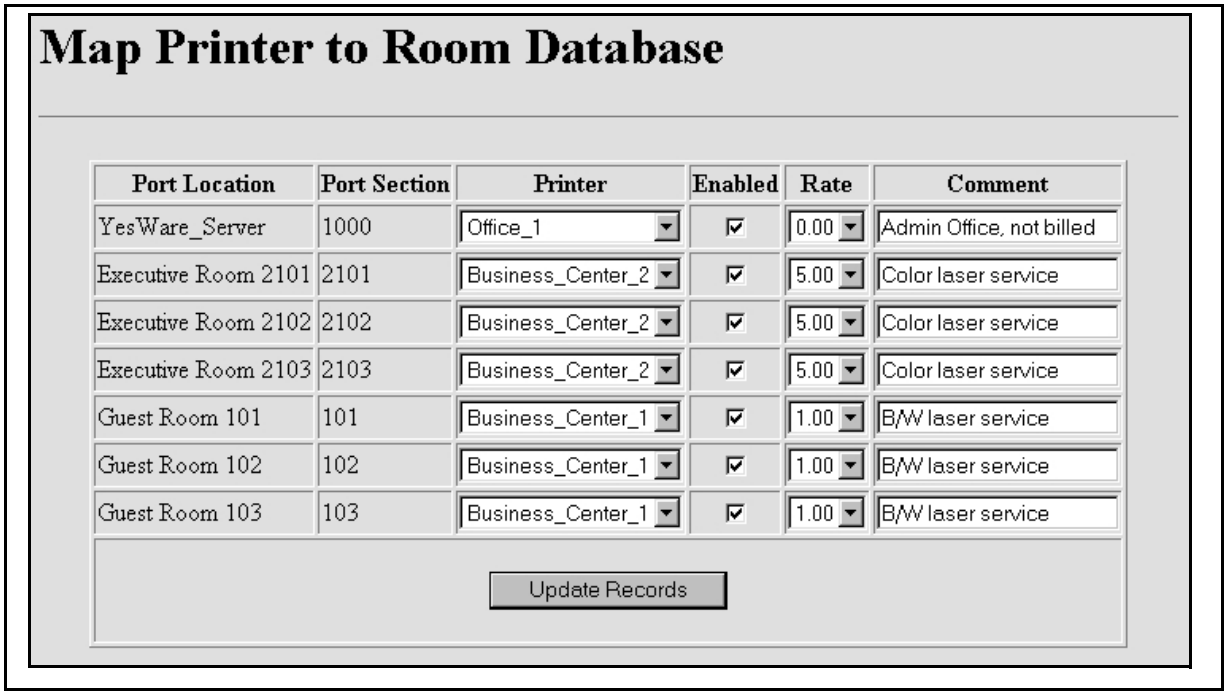
Figure 12-10 on page 12-13 shows a completed **Map Printer to Room Database** dialog with printers assigned in an example printer/room configuration.

16 Click the **Print Services** module link to return to the *Print Services* main page.

—continued—

Procedure 12-1 (continued)
Provisioning visitor printing services

Figure 12-10
Example / Completed "Map Printer to Room Database" dialog



—continued—

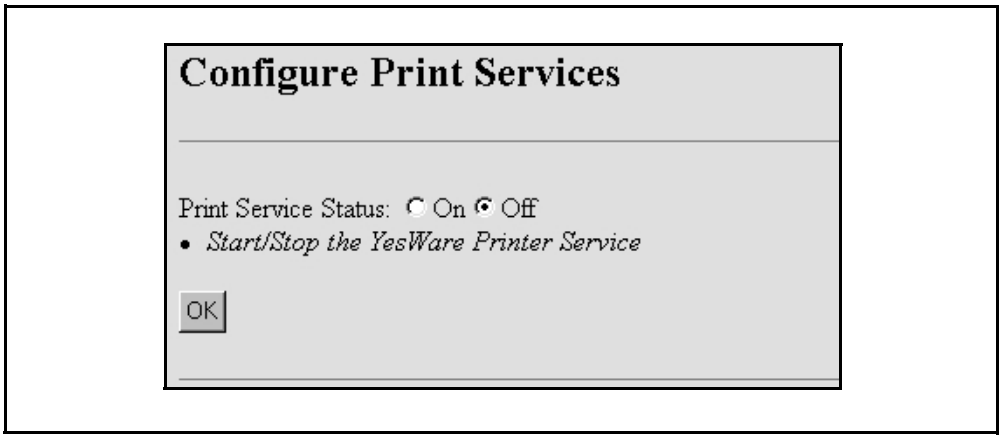
Procedure 12-1 (continued)
Provisioning visitor printing services

Step	Action

Starting visitor printing services

17 From the *Print Services* module main page, select the Configure Print Service function to launch the **Configure Print Services** dialog. Figure 12-11 shows this dialog in the default "Off" condition.

Figure 12-11
Default "Configure Print Services" dialog



18 Click the "On" radio button, and click the "OK" button to start printing services.

Testing visitor printing services

19 Use Procedure 12-2 on page 12-15, “Using visitor printing services” to test the Print Services configuration by printing a document. Verify the following:

- document prints correctly and on the correct printer
- PMS generates a room charge that is correct in both the amount charged and the room location/section

STOP

You have completed this task.

Procedure 12-2
Using visitor printing services

YesWare visitors can use this procedure to print a document using the YesWare *Print Services* module.

Note: The service-provider can use the instructions in this procedure to create an instruction-sheet for visitors to be placed in guest rooms.

Requirements

Visitors using YesWare print services must have the following loaded on their computer:

- Ethernet 10Base-T network interface card (NIC) and networking capabilities ("Network Neighborhood") installed
- Ethernet 10Base-T (CAT 5) cable
- TCP/IP protocol specified in the visitor computer Network/Configuration settings dialog and configured for use by the Ethernet NIC
- PostScript or PCL printer driver loaded on the visitor computer compatible with the hospitality facility printer
- Web-browser (Internet Explorer/Netscape Navigator 4.0 or later)

Action

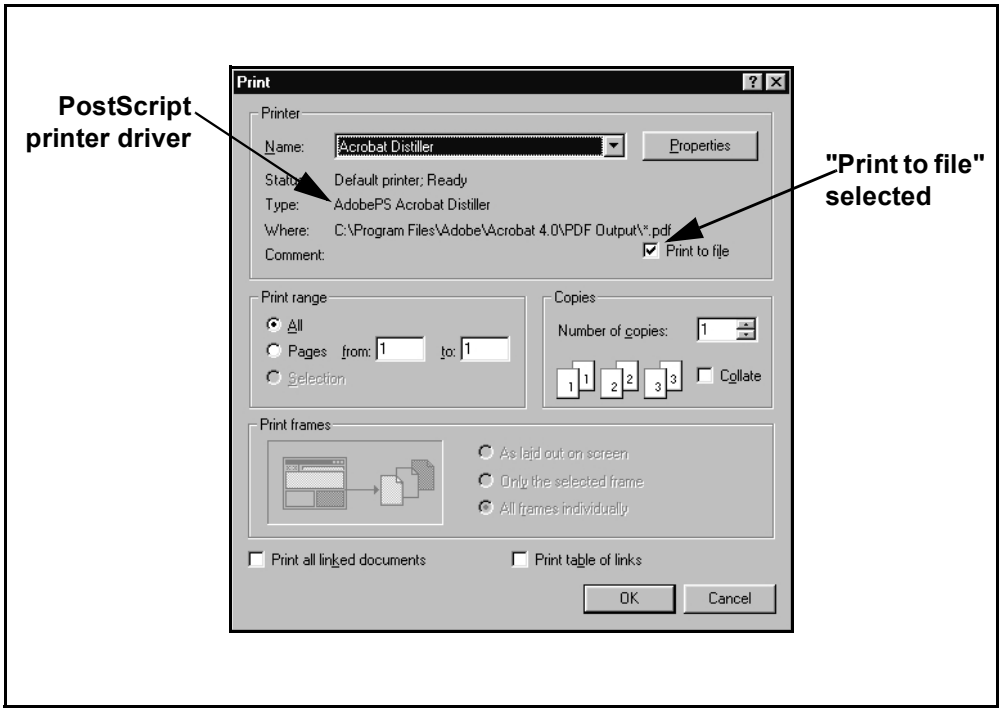
Step	Action
1	With the computer turned off and using the Ethernet cable, connect the computer's Ethernet card to the EtherLoop or Ethernet port in the room. Start the computer.

—continued—

Procedure 12-2 (continued)
Using visitor printing services

Step	Action
2	Print the document to "file" using the required compatible printer driver (see Figure 12-12).

Figure 12-12
Print-to-file



3	Launch the web-browser and, when prompted, enter the required **Authorization Code** or click "OK" to accept room charges.

—continued—

Procedure 12-2 (continued)
Using visitor printing services

Step	Action

4 From the Web, browse to the following IP address:

<YesWare Server IP Address>/cgi-bin/print.cgi

Figure 12-13 shows an example of a visitor print services web-page IP address. The web-page should appear as shown in Figure 12-14.

Figure 12-13
Browsing to the YesWare visitor printing page

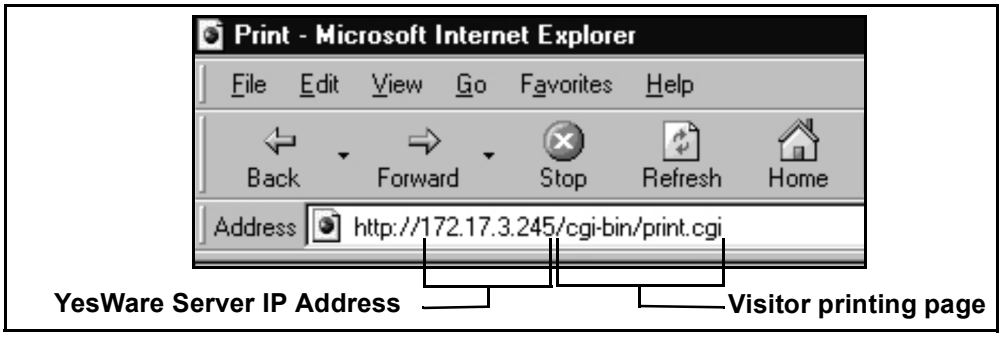
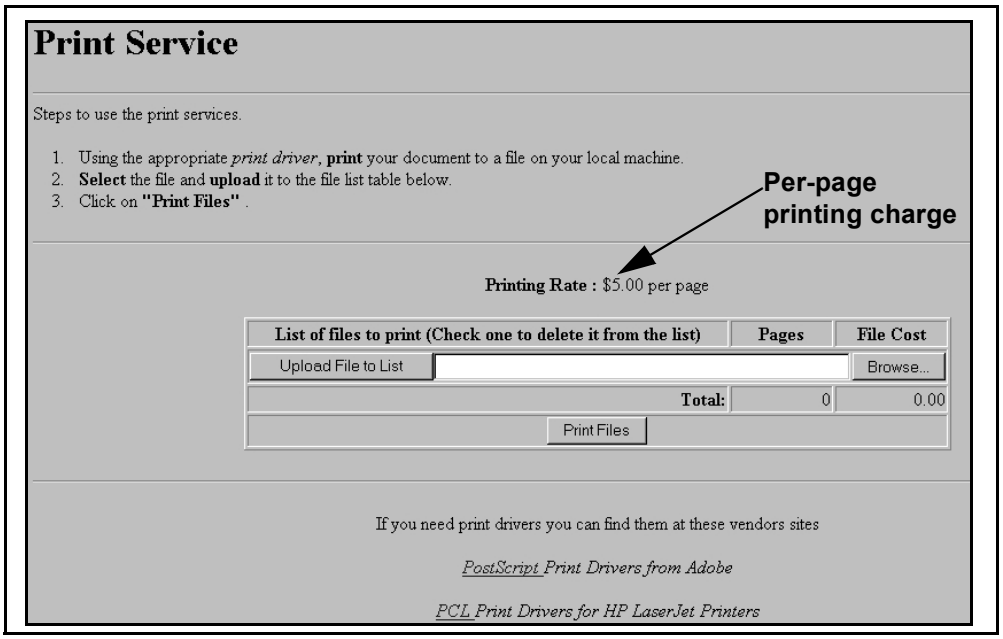

Print - Microsoft Internet Explorer
File Edit View Go Favorites Help
Back Forward Stop Refresh Home
Address http://172.17.3.245/cgi-bin/print.cgi
YesWare Server IP Address
Visitor printing page

Figure 12-14
Print Services visitor screen


Print Service
Steps to use the print services.
1. Using the appropriate print driver, print your document to a file on your local machine.
2. Select the file and upload it to the file list table below.
3. Click on "Print Files" .
Per-page printing charge
Printing Rate : $5.00 per page
List of files to print (Check one to delete it from the list)
Pages
File Cost
Upload File to List
Browse...
Total:
0
0.00
Print Files
If you need print drivers you can find them at these vendors sites
PostScript Print Drivers from Adobe
PCL Print Drivers for HP LaserJet Printers

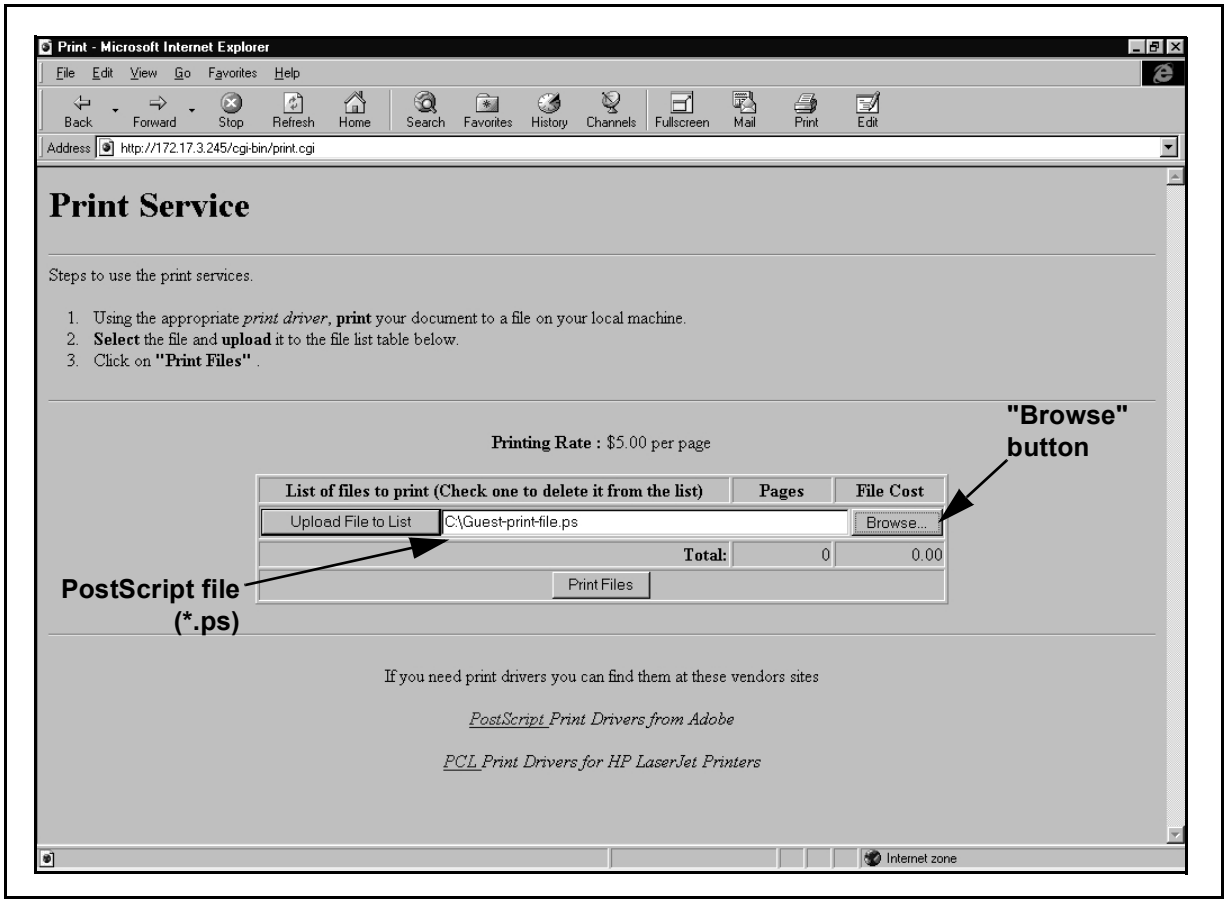
5 Note the per-page rate for printing services. The charge for printing PostScript files will appear on the room bill as this rate multiplied by the number of pages in the document printed. PCL files will be charged at a flat rate on a per-job basis.

—continued—

Procedure 12-2 (continued)
Using visitor printing services

Step	Action
6	Click the "Browse" button and browse to the location of the PostScript or PCL version of the document file (see Figure 12-15).

Figure 12-15
PostScript file ready to upload


Print - Microsoft Internet Explorer
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites History Channels Fullscreen Mail Print Edit
Address http://172.17.3.245/cgi-bin/print.cgi
Print Service
Steps to use the print services.
1. Using the appropriate print driver, print your document to a file on your local machine.
2. Select the file and upload it to the file list table below.
3. Click on "Print Files" .
Printing Rate : $5.00 per page
List of files to print (Check one to delete it from the list)
Pages
File Cost
Upload File to List
C:\Guest-print-file.ps
Browse...
Total:
0
0.00
Print Files
"Browse" button
PostScript file (*.ps)
If you need print drivers you can find them at these vendors sites
PostScript Print Drivers from Adobe
PCL Print Drivers for HP LaserJet Printers
Internet zone

—continued—

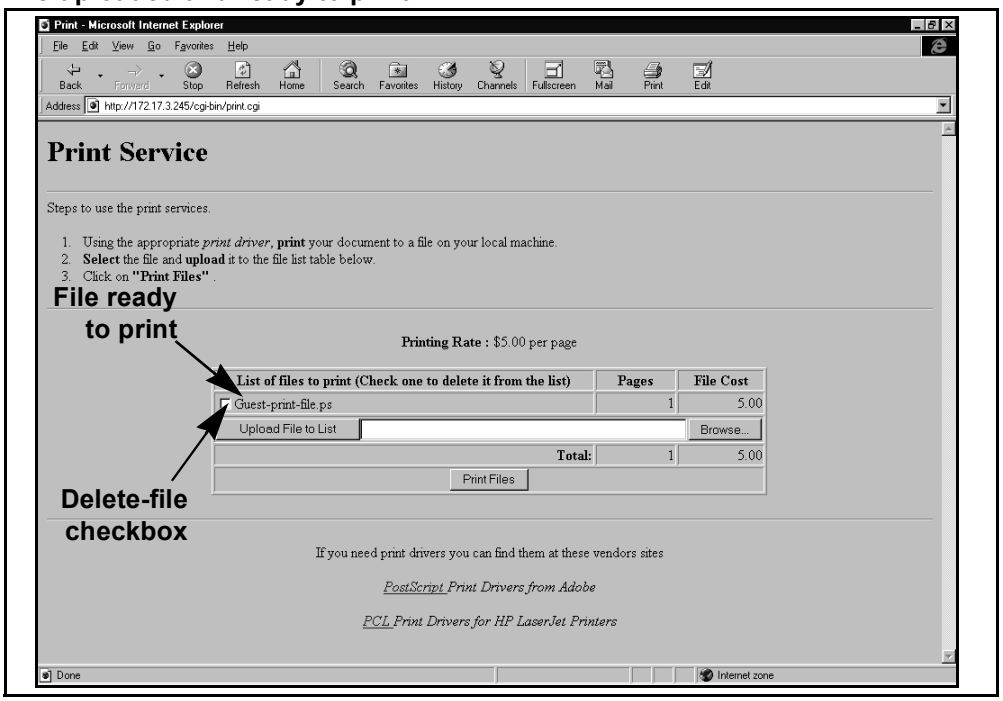
Procedure 12-2 (continued)
Using visitor printing services

Step	Action

7 When the PostScript or PCL file is listed in the entry field, click the "Upload File to List" button. After a few moments, the file to be printed should appear in the "List of files to print" table as shown in Figure 12-16.

> ***Caution - Delete-file checkbox usage***
> Clicking **once** on the delete-file checkbox (see Figure 12-16) immediately removes a file from the list, whthout a prompt. If you accidentally click the delete-file checkbox, clicking the "Back" button of your web-browser will restore the previous page and allow you to continue.

Figure 12-16
File uploaded and ready to print


Print - Microsoft Internet Explorer
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites History Channels Fullscreen Mail Print Edit
Address http://172.17.3.245/cgi-bin/print.cgi
Print Service
Steps to use the print services.
1. Using the appropriate print driver, print your document to a file on your local machine.
2. Select the file and upload it to the file list table below.
3. Click on "Print Files".
File ready to print
Printing Rate : $5.00 per page
List of files to print (Check one to delete it from the list)
Pages
File Cost
Guest-print-file.ps
1
5.00
Upload File to List
Browse...
Total:
1
5.00
Print Files
Delete-file checkbox
If you need print drivers you can find them at these vendors sites
PostScript Print Drivers from Adobe
PCL Print Drivers for HP LaserJet Printers
Done
Internet zone

8 Repeat steps 6 and 7 for each file to be printed.

9 Click the "Print Files" button to print the files listed to the printer in the host facility.

STOP

You have completed this task.

SECTION IV

YESWARE SYSTEM MANAGEMENT

Software Release 2.30

YesWare security and administration

This chapter describes YesWare system security, maintenance and administration capabilities and procedures.

Chapter topic list

This chapter includes the following topics.

Topic	See
YesWare System Security	page 13-2
Routine Maintenance and Administration	page 13-12
Backup, Restore, Upgrade, Restart and Shut Down Procedures	page 13-23

YesWare System Security

This section includes the following tasks.

Procedure	Task	See
13-1	Adding or removing modem privacy filters	page 13-3
13-2	Restricting web access to the YWS	page 13-6
13-3	Changing the system manager password	page 13-8
13-4	Resetting a password	page 13-10

Procedure 13-1
Adding or removing modem privacy filters

Access this function by selecting *Port Manager* / **EtherLoop Modem Provisioning /** Add privacy filters.

Feature description

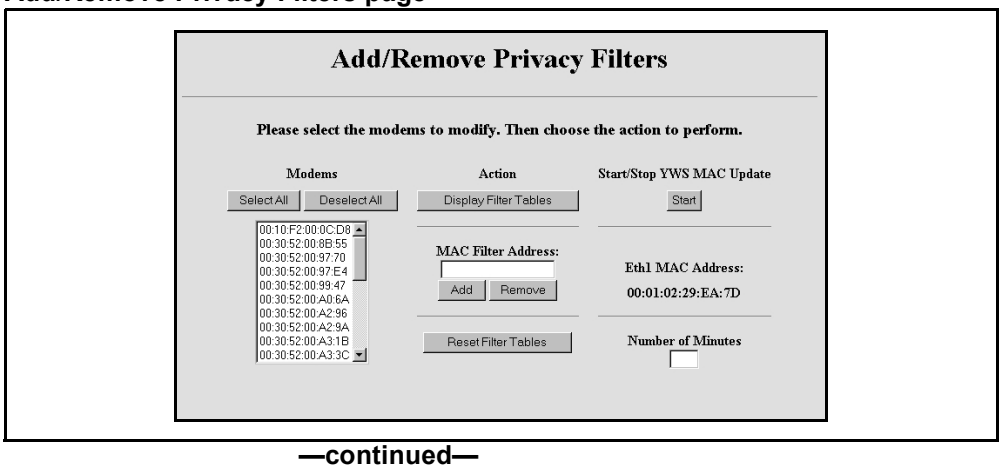
By default, EtherLoop modems in a YesWare VBN function as an unprotected LAN. That is, every computer connected can "see" every other computer on the YesWare VBN, as long as one visitor knows the other visitor's IP address (which is not difficult with the variety of IP "sniffer" products available).

EtherLoop MAC filters prevent or allow communications based on the MAC addresses provisioned in a modem's filter table. If no MAC filters are in a modem's filter table, all computers connected to the VBN have potential access to that computer. The Add Privacy filters function has the following important uses:

- First, by entering the MAC address of only the YWS **ETH 1** in the filter tables of a selected group of modems (or of all CPE modems in the database), the selected modems will only accept traffic from the YWS. This provides a secure environment that prevents unauthorized access to visitor computers.
- Second, by adding a group of CPE modem MAC addresses to the filter tables for a small group of modems (less than eight), the YesWare administrator can set up workgroups in which only users from the same workgroup can access other workgroup computers.

Figure 13-1 shows an example of the "Add/Remove Privacy Filters" page. The following section describes the capabilities and use of the Add privacy filters function.

Figure 13-1
Add/Remove Privacy Filters page



—continued—

Procedure 13-1 (continued)
Adding or removing modem privacy filters

Using the Add privacy filters function

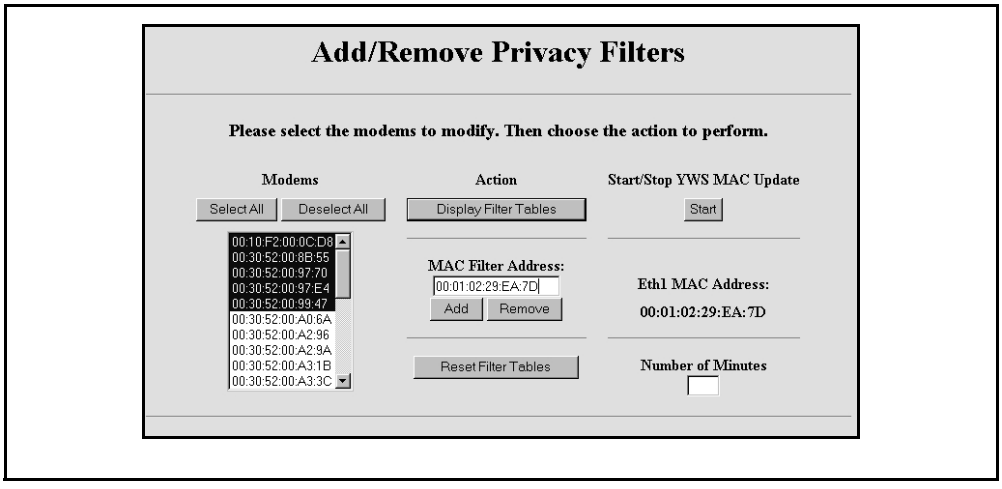
Separate MAC filter tables exist for CO and CPE modems. If no MAC addresses appear in the MAC Filter table for a particular modem, it will pass all Ethernet traffic. If any MAC addresses appear in the MAC Filter table for a particular modem, the modem will only accept Ethernet packets from those addresses. In addition, only registered hosts connected to the CPE modem can make use of the connection.

It is possible to store up to eight addresses per modem, allowing multiple gateways to be used.

Action

Step	Action
1	Select the modem(s) to modify.
2	Click "**Display Filter Tables**" to see the MAC address entries (if any) for the modems selected. *If any MAC addresses exist in the filter table, the table appears at the bottom of the screen.*
3	Enter the desired MAC address in the "**MAC Filter Address"** field. Figure 13-2 shows a group of modems selected and the ETH 1 MAC address entered in the field. Notice the ETH 1 MAC Address also appears on the right of the screen.

Figure 13-2
Entering a MAC Filter Address

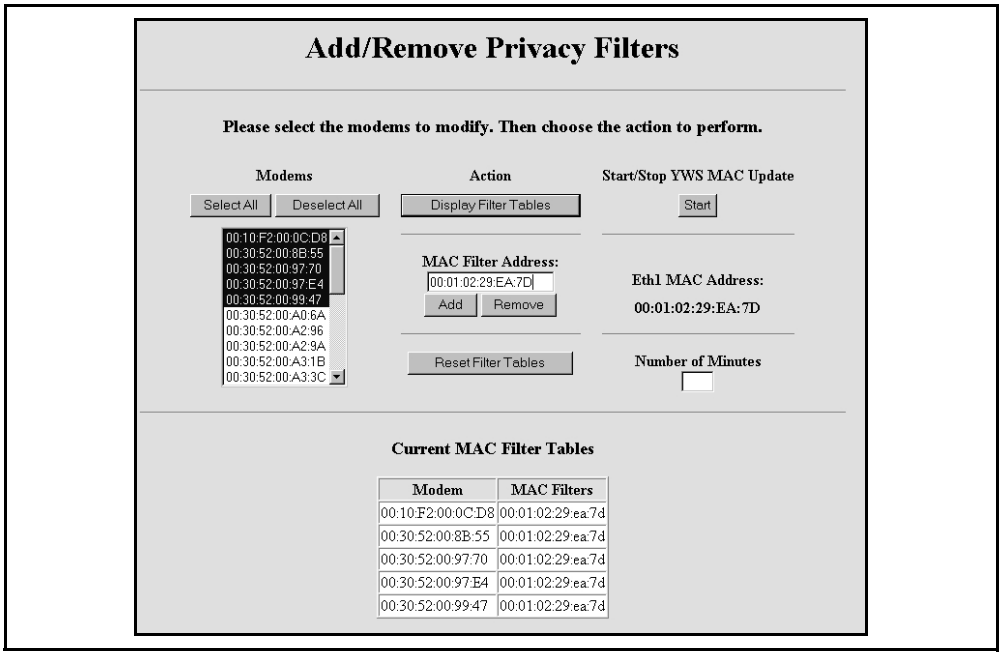


—continued—

Procedure 13-1 (continued)
Adding or removing modem privacy filters

Step	Action
4	Click the "Add" button to add the MAC address to the Filter Table of the selected group of modems. After processing, the system displays the Figure ***Note:*** Clicking the "Remove" button will remove the MAC address from the Filter Table.

Figure 13-3
MAC Filter Address added to filter table



5	In the "**Number of Minutes"** field, enter the duration (in minutes) between refreshes.
6	Click "**Start"** to initiate MAC address processing. ***Note:*** Clicking the "**Reset Filter Tables"** button returns the default settings.

STOP

You have completed this task.

Procedure 13-2
Restricting web access to the YWS

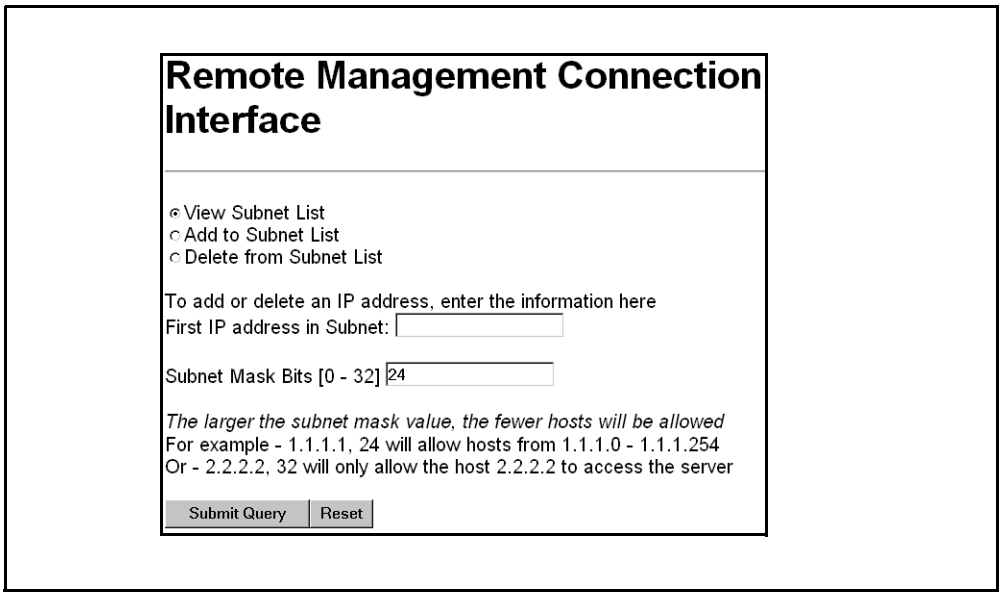
Use this procedure to restrict access to the YWS web interface by defining a list of valid subnets. If this function is used, only hosts with IP addresses within one of the defined subnets are allowed access to the YWS. By default, the system does not restrict any hosts.

If you are unfamiliar with subnet addressing, contact your LAN administrator for assistance with this procedure.

Action

Step	Action
1	Using a PC web browser, browse to the IP address configured for the **ETH 0** interface, and login to the YWS.
2	From the YesWare Main Menu, select the *InterProxy* module and click the Configure Remote Access link. *The Remote Management Connection Interface dialog appears as shown below.*

Figure 13-4
Remote Management Connection Interface dialog


Remote Management Connection Interface
View Subnet List
Add to Subnet List
Delete from Subnet List
To add or delete an IP address, enter the information here
First IP address in Subnet:
Subnet Mask Bits [0 - 32] 24
The larger the subnet mask value, the fewer hosts will be allowed
For example - 1.1.1.1, 24 will allow hosts from 1.1.1.0 - 1.1.1.254
Or - 2.2.2.2, 32 will only allow the host 2.2.2.2 to access the server
Submit Query
Reset

—continued—

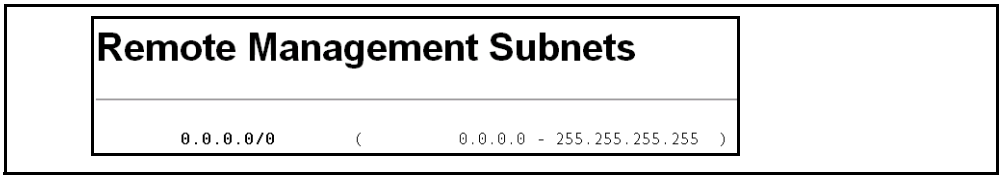
Procedure 13-2 (continued)
Restricting Remote Access

Step	Action

3 Click **View Subnet List** and then click **Submit Query**.

The Remote Management Subnets screen appears as shown below.

Figure 13-5
Remote Management Subnets screen



This screen displays the current list of valid subnets. In the example above, the entry 0.0.0.0/0 is all-inclusive, which means that all addresses are allowed access to the YWS.

4 Click the **Back** button on the toolbar to return to the previous screen.

5 To add a subnet to the subnet list, click **Add to Subnet List**.

6 Enter the **First IP Address in Subnet**.

7 Enter the number **Subnet Mask Bits** (0-32). This value, together with the IP address you entered in the step 6 defines the subnet. The higher the number you enter, the fewer hosts will be allowed. For example, if you enter 32, only the IP address you specified in step 6 will be allowed (all 32 bits must match). If you enter 24, only the 255 host addresses that match the first 24 bits will be allowed.

8 Click **Subnet Query.**

The Remote Management Subnets screen appears. The subnet values you just entered are included in the list.

9 Repeat steps 6 through 8 to add as many subnets as required.

10 Delete any unwanted entries from the list (such as the all-inclusive 0.0.0.0/0) by selecting the **Delete from Subnet List** option and then specifying the **First IP Address** and **Subnet Mask Bits** for the subnet you want to delete.

11 When the subnet list is complete, restart the YWS so the changes will take effect. See “Restarting the YesWare Server” on page 13-29 for complete instructions.

STOP

You have completed this task.

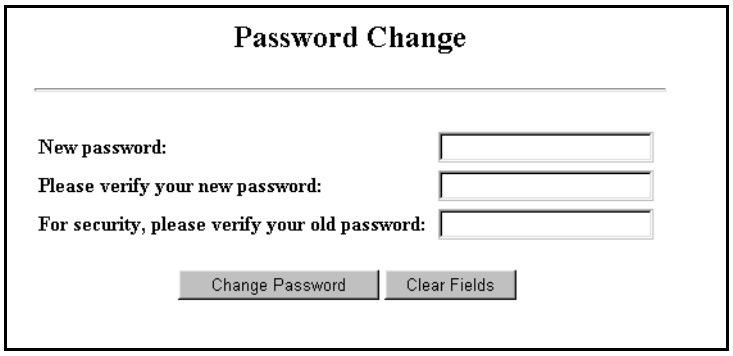
Procedure 13-3
Changing the system manager password

Once you have logged onto the YesWare interface for the first time, you should change the default manager password so your system is secure. Use the following procedure to change the system manager password.

Action

Step	Action
1	From the YesWare Main Menu, choose **NSS Maintenance**. ***Note:*** If the NSS Maintenance application does not appear on the YesWare Main Menu, go to "Installing and Upgrading YesWare modules" on page 13-24 to install it manually.
2	From the NSS Maintenance menu, select the **Password Change** option. *The Password Change dialog appears.*

Figure 13-6
Password Change dialog



—continued—

Procedure 13-3 (continued)
Changing the system manager password

3 Enter the new password. The password must be 5-8 characters.

4 Enter the new password again to verify it.

5 Enter the old password, the password you are changing (if this is the first time you have logged on, the password is still *manager).*

6 Choose one of the following:

- Click **Change Password** to change to the new password.
- Click **Clear Fields** to clear the new password you entered so you can enter a different password or exit without changing the password.

If you select Clear Fields, the password is not changed.

You have completed this task.

Procedure 13-4
Resetting a password

The Password Reset option is used to change the passwords of Administrators and Operators. This is useful in cases where an Administrator or Manager needs to change a password for security purposes. To change the your own password (the password under which you logged into the system), use the Password Change option (see "Changing the system manager password" on page 13-8).

> ***Note:*** Only the Manager can change Administrator passwords. See Table 13-1, "YesWare Maintenance Privileges," for more information.

The current release of the defines the following user types:

- Operator
- Administrator
- Manager

The table below defines maintenance privileges for each user type.

Table 13-1
YesWare Maintenance Privileges

User Type	Privilege
Operator	Operators can change their own password. Otherwise, Operators are limited to read-only privileges.
Administrator	Administrators can add, change and delete user accounts and passwords of Operators. Administrators **cannot** add, change or delete user accounts and passwords of other Administrators.
Manager	The Manager can add, change and delete user accounts and passwords of Operators and Administrators. The Manager can modify their own account. However, the Manager **cannot** delete their own account.

To reset a password requires entry of a user account ID and entry of a new password. For security verification, the Manager must also a password to verify the manager's authorization to change the password.

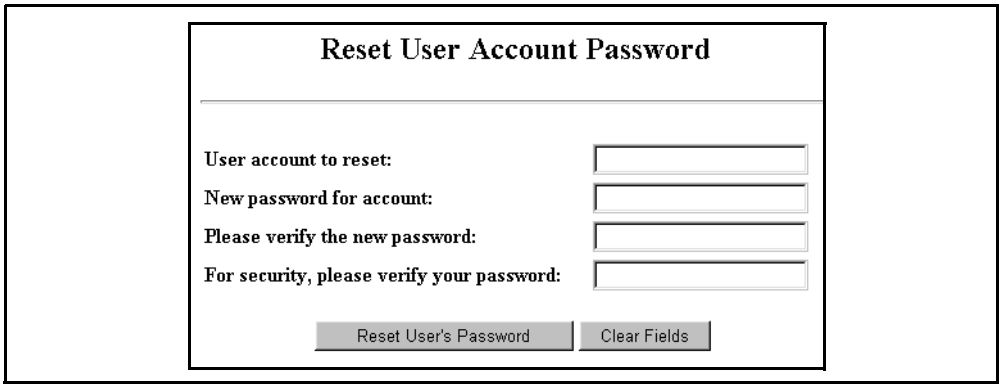
—continued—

Procedure 13-4 (continued)
Resetting a Password

Action

Step	Action
1	From the YesWare Main Menu, choose **NSS Maintenance**. *The NSS Maintenance menu appears.*
2	Select the **Password Reset** option. *The Reset User Account Password dialog appears.*

Figure 13-7
Reset User Account Password dialog


Reset User Account Password
User account to reset:
New password for account:
Please verify the new password:
For security, please verify your password:
Reset User's Password
Clear Fields

3	Enter the identifier for the account to be reset.
4	Enter the new password for the account.The password must be 5-8 characters. *The system requires that you repeat entry of the password to verify that it is the one you want.*
5	Enter the new password for the account again. *The system requires that you enter your own password to verify that you have proper authorization to change the user's password.*
6	Click **Reset User's Password**.

STOP

You have completed this task.

Routine Maintenance and Administration

This section includes the following tasks.

Procedure	Task	See
13-5	Adding a new user	page 13-13
13-6	Deleting a User	page 13-15
13-7	Viewing System Logs	page 13-17
13-8	Viewing VBN user activity	page 13-19
13-9	Configuring NTP (network time protocol)	page 13-22

Procedure 13-5
Adding a new user

Use the Add New User Account function to add Operator and Administrator user accounts.

> ***Note:*** Only the YesWare Manager can add YesWare Administrator user accounts. See Table 13-2, "YesWare Maintenance Privileges," for more information.

There three types of YesWare users:

- Operator
- Administrator
- Manager

The table below defines YesWare Maintenance privileges for each user type.

Table 13-2
YesWare Maintenance Privileges

User Type	Privilege
YesWare Operator	Operators can change their own password. Otherwise, Operators are limited to read-only privileges.
YesWare Administrator	Administrators can add, change and delete user accounts and passwords of Operators. Administrators **cannot** add, change or delete user accounts and passwords of other Administrators.
YesWare Manager	The Manager can add, change and delete user accounts and passwords of Operators and Administrators. There is only one Manager account. The Manager can modify their own account. However, Managers **cannot** delete their own account.

To add a new account requires entry of a user account ID and entering a new password. For security verification, the YesWare Manager must also enter a password to verify the manager's authorization to change the password.

—continued—

Procedure 13-5 (continued)
Adding a new user

Action

Step	Action
1	From the YesWare Main Menu, choose **NSS Maintenance**. *The NSS Maintenance menu appears.*
2	Select the **Add New User** option. *The Add New User dialog appears.*

Figure 13-8
Add New User Account dialog

Note: If the user creating the new account is the YesWare Manager, the Add New User Account dialog box allows the YesWare Manager to select the privilege level (Admin or Operator) assigned to the new user account.

3	Enter the identifier for the account to be created. The account name must be 5-8 characters.
4	Specify the user type (Admin or Operator).
5	Enter the initial password for the account. The password must be 5-8 characters. *The system requires you repeat entry of the password to verify it is the one you want.*
6	Enter the initial password for the account again. *The system requires you enter your own password to verify you have proper authorization to change the user's password.*
7	Enter your password, and click **Add User** to create the new user account.
8	Add as many new user accounts (one at a time) as required.

STOP

You have completed this task.

Procedure 13-6
Deleting a User

The Delete User Account function is used to delete Operator and Administrator user accounts.

> ***Note:*** Only the Manager can delete Administrator accounts. See Table 13-3, "YesWare Maintenance Privileges," for more information.

The current release of YesWare defines the following user types:

- Operator
- Administrator
- Manager

The table below defines Maintenance privileges for each user type.

Table 13-3
YesWare Maintenance Privileges

User Type	Privilege
Operator	Operators can change their own password. Otherwise, Operators are limited to read-only privileges.
Administrator	Administrators can add, change and delete user accounts and passwords of Operators. Administrators **cannot** add, change or delete user accounts and passwords of other Administrators.
Manager	The Manager can add, change and delete user accounts and passwords of Operators and Administrators. The Manager can modify their own account. However, the Manager **cannot** delete their own account.

Deletion of a user account requires entry of the account ID to be deleted. For security verification, the Manager must also enter a password to verify the manager's authorization to change the password.

—continued—

Procedure 13-6 (continued)
Deleting a User

Action

Step	Action
1	From the YesWare Main Menu, choose **NSS Maintenance**. *The NSS Maintenance menu appears.*
2	Click **Delete User**. *The Delete User dialog appears.* **Figure 13-9** **Delete User Account dialog**

3	Enter the identifier for the account to be deleted. *The system requires that you enter your own password to verify that you have proper authorization to delete the user's password.*
4	Click **Delete User Account** to delete the account. (You can Click Clear Fields to clear the account number and password you entered so you can make other entries or exit without deleting the account.) *If you select Clear Fields, the user account is not deleted.*
5	Delete as many user accounts (one at a time) as required.

STOP

You have completed this task.

Procedure 13-7
Viewing System Logs

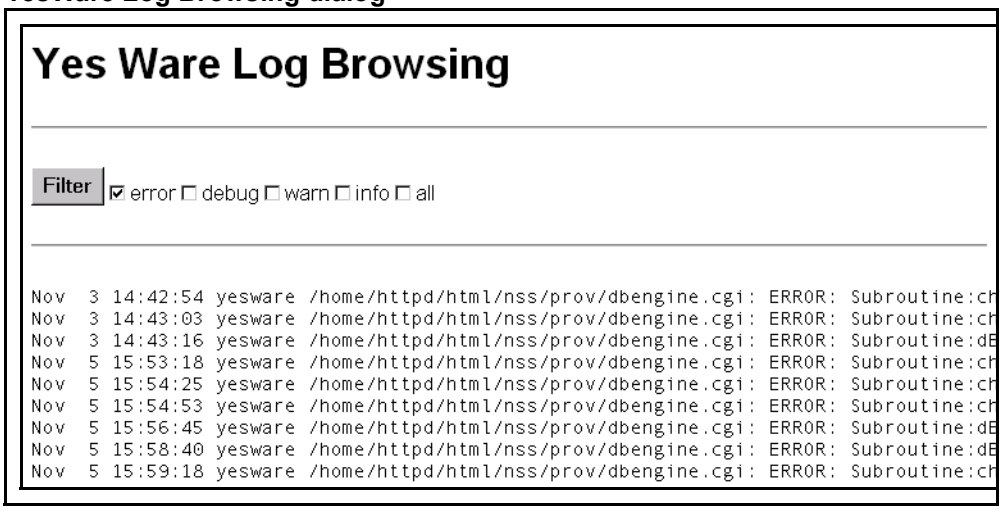
The following steps describe the procedure for viewing VBN (Visitor Based Network, which includes Billing Manager and Port Manager) event logs.

You can display the entire log, or choose from a list of filters to select the information displayed. You can choose to display only error messages, debugging messages, warning messages, or informational messages instead of the entire log.

Action

Step	Action
1	From the YesWare Main Menu, choose **NSS Maintenance**. *The NSS Maintenance menu appears.*
2	Click **View System Logs**. *The Log Browsing dialog appears as shown in Figure 13-10.*

Figure 13-10
YesWare Log Browsing dialog


Yes Ware Log Browsing
Filter
error
debug
warn
info
all
Nov 3 14:42:54 yesware /home/httpd/html/nss/prov/dbengine.cgi: ERROR: Subroutine:ch
Nov 3 14:43:03 yesware /home/httpd/html/nss/prov/dbengine.cgi: ERROR: Subroutine:ch
Nov 3 14:43:16 yesware /home/httpd/html/nss/prov/dbengine.cgi: ERROR: Subroutine:dB
Nov 5 15:53:18 yesware /home/httpd/html/nss/prov/dbengine.cgi: ERROR: Subroutine:ch
Nov 5 15:54:25 yesware /home/httpd/html/nss/prov/dbengine.cgi: ERROR: Subroutine:ch
Nov 5 15:54:53 yesware /home/httpd/html/nss/prov/dbengine.cgi: ERROR: Subroutine:ch
Nov 5 15:56:45 yesware /home/httpd/html/nss/prov/dbengine.cgi: ERROR: Subroutine:dB
Nov 5 15:58:40 yesware /home/httpd/html/nss/prov/dbengine.cgi: ERROR: Subroutine:dB
Nov 5 15:59:18 yesware /home/httpd/html/nss/prov/dbengine.cgi: ERROR: Subroutine:ch

—continued—

Procedure 13-7 (continued)
Viewing the System Logs

3 To filter the information displayed, select one of the following and then click **Filter**.

- error—error messages
- debug—debug messages
- warn—warning message
- info—informational messages
- all—all messages in the log

The log is displayed again with only the messages you selected.

You have completed this task.

Procedure 13-8
Viewing VBN user activity

This procedure describes the functions available in YesWare to view VBN user activity. These functions are located in the **System Tools** section of *Port Manager,* and include the following:

- Show Active Users
- Show User History
- Trace Address

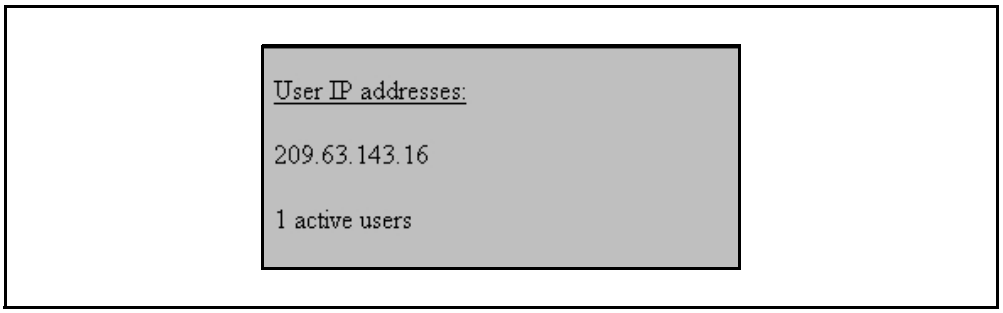
The folllowing sections describe the purpose and use of each of these functions.

Show Active Users

Use this function to view the list of active users on the InterProxy-VBN system. The dialog displays the IP address of the InterProxy-VBN users followed by the total number of users on the InterProxy-VBN system.

Figure 13-11 shows the active users dialog.

Figure 13-11
Active users dialog



—continued—

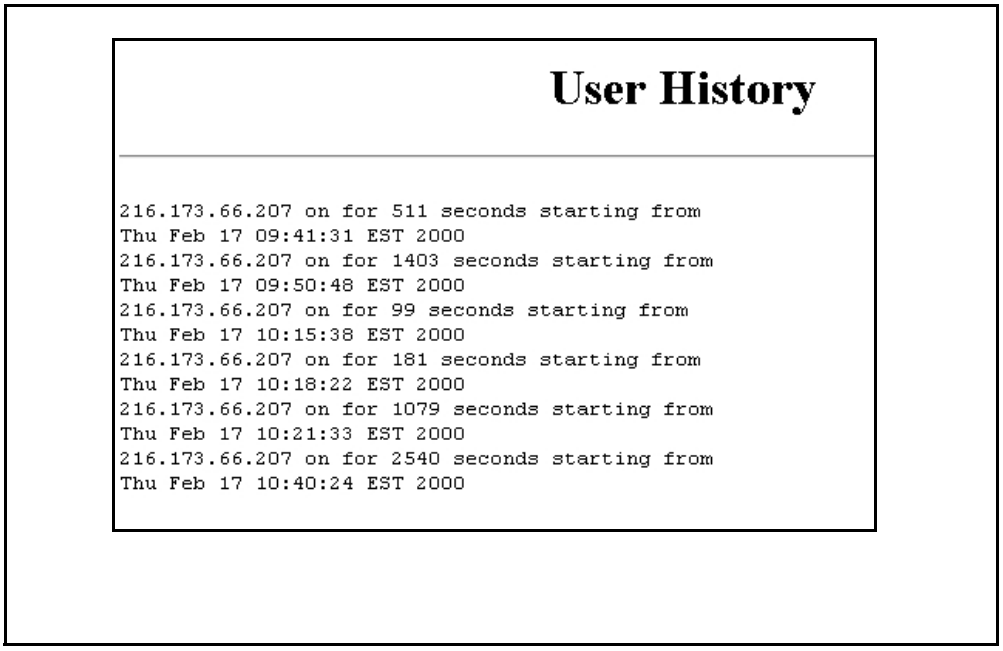
Procedure 13-8 (continued)
Viewing VBN user activity

Show User History

Use this function to view a history of all logins on the visitor network in the last two weeks.

Figure 13-12 shows a "truncated" user history dialog.

Figure 13-12
User History dialog


User History
216.173.66.207 on for 511 seconds starting from
Thu Feb 17 09:41:31 EST 2000
216.173.66.207 on for 1403 seconds starting from
Thu Feb 17 09:50:48 EST 2000
216.173.66.207 on for 99 seconds starting from
Thu Feb 17 10:15:38 EST 2000
216.173.66.207 on for 181 seconds starting from
Thu Feb 17 10:18:22 EST 2000
216.173.66.207 on for 1079 seconds starting from
Thu Feb 17 10:21:33 EST 2000
216.173.66.207 on for 2540 seconds starting from
Thu Feb 17 10:40:24 EST 2000

—continued—

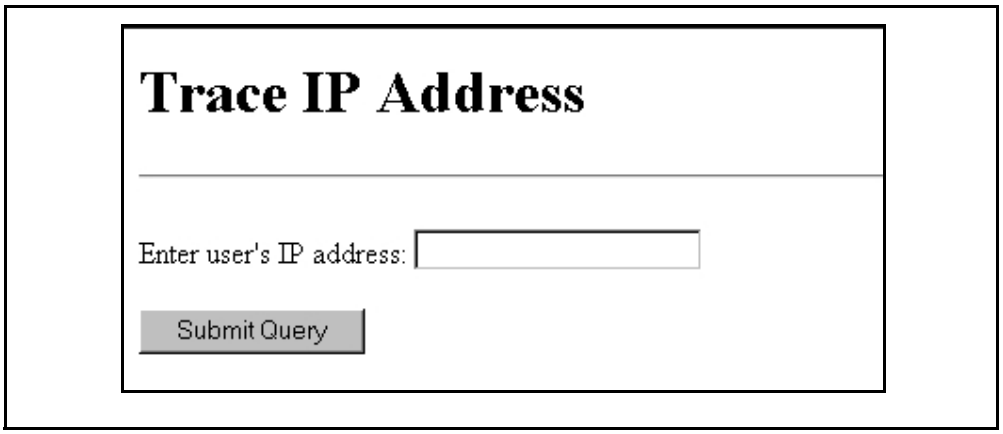
Procedure 13-8 (continued)
Viewing VBN user activity

Trace Address

Use this function to determine the path of Ethernet-VBN switches a user takes to reach the YWS.

To trace a user IP address, enter the IP address in the "Trace IP Address" dialog field and click the "Submit Query" button. Figure 13-13 shows the "Trace IP Address" dialog.

Figure 13-13
Trace IP Address dialog



STOP

You have completed this task.

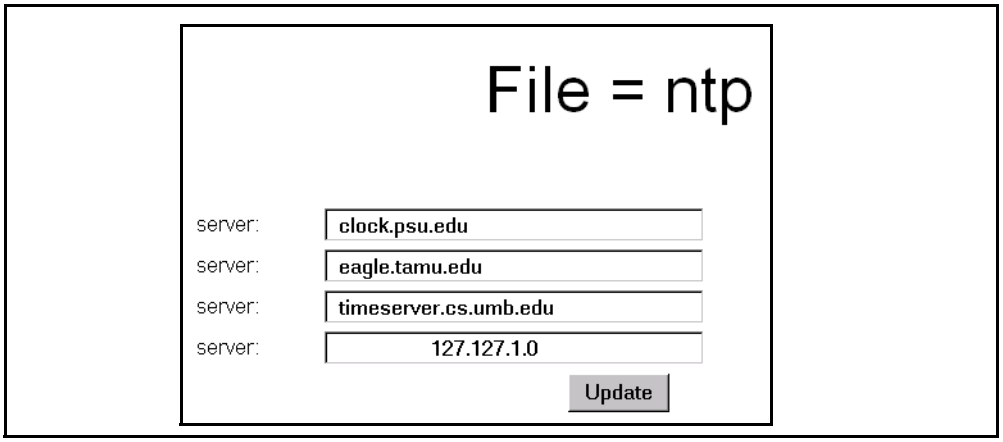
Procedure 13-9
Configuring NTP (network time protocol)

Use this procedure to edit the list of clock synchronization servers that can be used to keep your system clock accurate. This procedure is optional; Elastic Networks provides a set of default values for NTP configuration which should be adequate for most installations.

Action

Step	Action
1	From the YesWare Main menu, choose **NSS Maintenance**.
2	Click **Set Xntp information**. *The ntp dialog appears.*

Figure 13-14
NTP dialog



The first three entries are public Internet servers. The last entry is the internal clock address for your computer; this address is used only if the none of the timing servers can be found. You may change any of the first three entries, but do not change the last entry unless directed to do so by your Elastic Networks technical support representative.

3 Edit the server addresses as needed and click **Update**.

STOP

You have completed this task.

Backup, Restore, Upgrade, Restart and Shut Down Procedures

This section contains the following tasks.

Procedure	Task	See
13-10	Installing and Upgrading YesWare modules	page 13-24
13-11	Backing Up and Restoring the System Database	page 13-26
13-12	Backing up the InterProxy configuration	page 13-27
13-13	Restarting the YesWare Server	page 13-29
13-14	Shutting Down the YesWare Server	page 13-30

Procedure 13-10
Installing and Upgrading YesWare modules

This procedure explains how to install new YesWare software or upgrade the software currently installed. Use this procedure whenever you need to update your system software.

Requirement

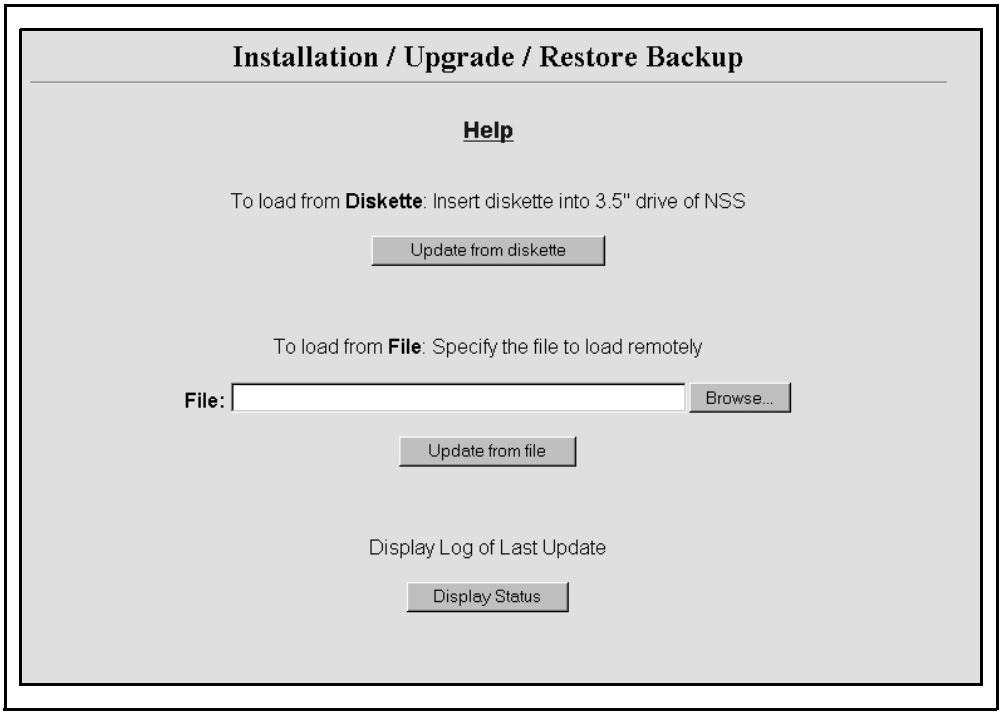
To perform this procedure, you need the following:

- YesWare upgrade software diskette or file

Action

Step	Action
1	Log in to the YesWare Server and choose **Install or Upgrade** from the main menu. *The Installation/Upgrade/Restore Backup dialog appears as shown in Figure 13-15.*

Figure 13-15
Installation/Upgrade/Restore Backup dialog


Installation / Upgrade / Restore Backup
Help
To load from Diskette: Insert diskette into 3.5" drive of NSS
Update from diskette
To load from File: Specify the file to load remotely
File:
Browse...
Update from file
Display Log of Last Update
Display Status

—continued—

Procedure 13-10 (continued)
Installing and Upgrading YesWare modules

Step	Action

2 Proceed according to the following table:

Upgrading from	Then
Diskette	Insert the YesWare application diskette in the YesWare Server disk drive and click "Update" button.
File located on local or network disk drive	Click the "Browse" button. Browse to the file location and click "Update from File" button.

3 At any time during the install/upgrade/restore process, you can click **Display Status** to show the current status of the update. When the status indicates that the update is complete, remove the diskette of necessary.

You have completed this task.

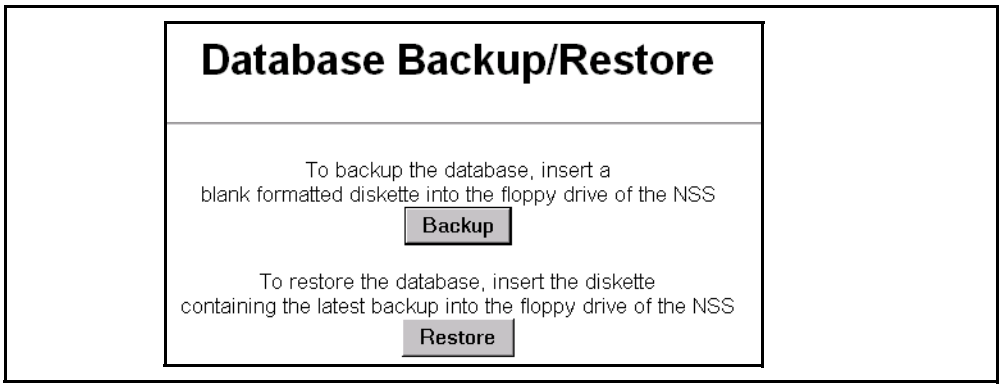
Procedure 13-11
Backing Up and Restoring the System Database

The following steps describe the procedure for backing up and restoring the system database.

Action

Step	Action
1	From the YesWare Main Menu, choose **NSS Maintenance**. *The NSS Maintenance menu appears.*
2	Click **Backup/Restore System Database**. *The Log Browsing dialog appears as shown.*

Figure 13-16
Database Backup/Restore dialog


Database Backup/Restore
To backup the database, insert a
blank formatted diskette into the floppy drive of the NSS
Backup
To restore the database, insert the diskette
containing the latest backup into the floppy drive of the NSS
Restore

3 Do one of the following:

- To backup the system database, insert a blank diskette in Drive A and click **Backup.**
- To restore from a previous backup, insert the backup diskette in Drive A and click **Restore**.

STOP

You have completed this task.

Procedure 13-12
Backing up the InterProxy configuration

When the initial InterProxy configuration is complete (and whenever the cinfiguration changes thereafter), you should make a backup of the configuration. Use this procedure to backup the InterProxy configuration to diskette.

In addition to using this function, the system administrator should use the web-browser's print capability to print-out the InterProxy settings for recordkeeping purposes.

> ***CAUTION - Possible version conflict***
> Never restore an older backup copy of InterProxy onto a YWS with a higher version of the *InterProxy* module. The Backup InterProxy function backs up the entire *InterProxy* module, not just the data. Restoring onto a higher version of *InterProxy* will **over-write** the new module version with the old version.

Requirements

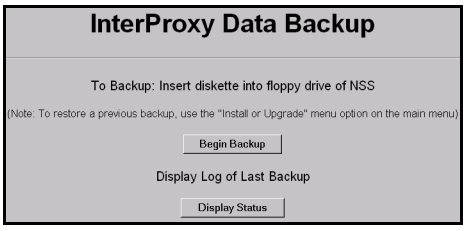
To perform this procedure, you need the following:

- A 1.44 MB formatted diskette

Action

Step	Action
1	Using a PC web browser, browse to the IP address configured for the **ETH 0** interface, and login to the YWS.
2	From the YesWare Main Menu, choose the *InterProxy* module. *The InterProxy menu appears.*
3	Click **Backup InterProxy**. *The InterProxy Data Backup dialog appears as shown below.*

Figure 13-17
InterProxy Data Backup dialog


InterProxy Data Backup
To Backup: Insert diskette into floppy drive of NSS
(Note: To restore a previous backup, use the "Install or Upgrade" menu option on the main menu)
Begin Backup
Display Log of Last Backup
Display Status

—continued—

Procedure 13-12 (continued)
Backing up the InterProxy configuration

Step	Action
4	Insert a diskette in the disk drive.
5	Click **Begin Backup**.
6	At any time during the backup process, you can click **Display Status** to show the current status of the backup. When the status indicates that the backup is complete, you can remove the diskette.

You have completed this task.

Procedure 13-13
Restarting the YesWare Server

This procedure explains how to restart the YesWare Server should you be directed to do so by your Elastic Networks technical support representative.

CAUTION

Client communications are stopped while the YesWare Server is rebooting.

This procedure causes the YesWare Server to reboot. Any client communications will be dropped while the server is rebooting. The reboot process takes approximately one minute. While the server is rebooting, the YesWare application interface is unavailable.

Action

Step	Action
1	From the YesWare Main menu, click **NSS Maintenance.**
2	Click **Restart System**. The Restart System screen appears.
3	cClick **Initiate Restart**.
	The system waits about one minute before rebooting the YesWare Server. The reboot process takes approximately one minute. While the server is rebooting, the YesWare application interface is unavailable.

You have completed this task.

Procedure 13-14
Shutting Down the YesWare Server

This procedure explains how to restart the YesWare Server should you be directed to do so by your Elastic Networks technical support representative.

CAUTION
Client communications are stopped while the YesWare Server is rebooting.
This procedure causes the YesWare Server to shut down. Any client communications will be dropped.When the system is rebooted, the reboot process takes approximately one minute. While the server is rebooting, the YesWare application interface is unavailable.

Action

Step	Action
1	From the YesWare Main menu, click **NSS Maintenance.**
	The NSS Maintenance menu appears.
2	Click **Shutdown System**.
	The Shutdown System screen appears.
3	Click **Initiate Shutdown**.
	The system conducts an orderly shutdown.

You have completed this task.

Using *EtherCraft*

The *EtherCraft* utility provides monitoring and control features for modems used in EtherLoop systems.

This chapter describes the features and capabilities of the EtherCraft module, including selecting modems for remote examination of modem speed, throughput, and error tracking information. In addition, this chapter shows EtherCraft's capabilities to keep up with firmware versions, modem status, and hardware addresses.

Chapter Contents

This chapter includes the following information.

Topic	See
EtherCraft feature description	page 14-2
Check Speeds	page 14-6
Modem Details	page 14-7
Client Addresses	page 14-11
Status	page 14-12
Version	page 14-13
Clear Logs	page 14-14
Get Logs	page 14-15
Reset Modems	page 14-16

EtherCraft feature description

EtherCraft is a diagnostics and performance monitoring tool for monitoring EtherLoop modem status and performance. *EtherCraft* can examine all modems or selected modems that have been provisioned using *Port Manager*. EtherCraft can only be used after EtherLoop modem database has been provisioned.

> ***EtherCraft terminology - Server=CO/SE, Client=CPE/CE***
> EtherCraft terms EtherLoop CO/SE modems as "server" modems and CPE/CE modems as "client" modems.

Using EtherCraft

The first step in using EtherCraft is to select the modem(s) to monitor. EtherCraft provides the following modem selection capabilities:

- Time delay entry, to specify the time delay to refresh data a specified number of seconds.
- Monitoring of all EtherLoop modems
- Monitoring selected modems using choices from lists of Client and Server modems
- Specification of the delay time between modem queries

Once you have selected the modem(s), you can choose to perform a variety of modem monitoring activities including:

- Check modem speeds
- Display comprehensive tables showing modem performance including modems speeds, training counts, retraining, Ethernet metrics, and HDLC metrics
- View modem firmware version information
- Clear or get modem logs
- Display lists of currently active modems
- Reset modems

The sections that follow describe the information available using the *EtherCraft* utility and each of the functions listed above.

EtherLoop modem speeds and training counts

EtherCraft presents EtherLoop modem speedsusing tables that contain codes representing 24 possible modem speed levels (0-23). Modem training counts are calculated at each speed and the results of the training counts are shown using a code (see Table 14-2 on page 14-5). For example, if a modem is trained at a speed of 2857 Kbps (Speed Code 17) and the speed is found to be acceptable, a training Code of 10 is displayed to indicate the results of the training.

Note: With this release, only speeds 0-19 are available.

EtherCraft speeds tables

Table 14-1 on page 14-4 lists the modem speed codes and the estimated throughput for the corresponding QAM16 and QPSK speed values.

Table 14-1
Estimated throughput at different modem speeds

Modem Speed Code	ksps	Modulation	kbps
0	62.50	QPSK	125
1	89.29	QPSK	178
2	125.00	QPSK	250
3	62.50	16 QAM	250
4	178.57	QPSK	357
5	89.29	16 QAM	357
6	250.00	QPSK	500
7	125.00	16 QAM	500
8	357.14	QPSK	714
9	178.57	16 QAM	714
10	500.00	QPSK	1000
11	250.00	16 QAM	1000
12	714.29	QPSK	1428
13	357.14	16 QAM	1428
14	833.33	QPSK	1666
15	1000	QPSK	2000
16	500.00	16 QAM	2000
17	714.29	16 QAM	2857
18	833.33	16 QAM	3333
19	1000	16 QAM	4000

Modem training counts

Table 14-2 on page 14-5 lists the modem training counts and the meaning of each code.

Table 14-2
Check Speed training count interpretation

Code	Description
15	Modem has been trained, speed has been used and the LQF is > or = 98%
11 thru14	Modem has been trained, speed has a high LQF but has burned off at least once.
10	Modem has been trained, the speed has not been used, or the modem has used the speed and the LQF is between 85-98%
1 thru 9	Modem has been trained, but burned off at least once because of LQF or SNR problems
0	Modem has not been trained, or once modem was trained was burned off because of poor LQR or SNR
-1 thru -5	Modem has failed to this this many times. The modem will not attempt to retrain a speed with a -5 or -3 training count. Once per hour the modem will set all untrained speeds to -4 to allow another training attempt for that speed.
-6	Modem has been marked as untrainable because the firmware determined the apparent distance between modems was too long to support this speed
-7	Modem has been marked as unusable.
-10	Modem is currently being trained
NA	Modem was unavailable to determine its training count at that particular speed

Check Speeds

Use this function to check the transmit speeds of selected client or server modems. You can display the following values for training results based on training at different speeds.

- Type of modem—client or server modem.
- Speeds—shown using codes to represent QAM16 and QPSK values
- Mac address for the modem along with its training counts—training counts are interpreted using codes to indicate the results of training at different speeds

Access this function from the EtherCraft page by clicking the **Check Speeds** button. Figure 14-1 shows the **Check Speeds** page.

Figure 14-1
EtherCraft Check Speeds page

Server Modem Receive Training Counts

Speeds	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Current TX Speed	Current RX Speed	Theoretical Maximum Throughput
003052000007_0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0
003052000007_1	-6	10	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	-6	10	-6	15	15	-6	-6	21	21	4000
003052000007_2	-6	10	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	-6	10	-6	15	15	-6	-6	21	21	4000
003052000007_3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0
003052000007_4	-6	10	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	-6	15	-6	10	15	-6	-6	21	21	4000
003052000007_5	-6	10	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	-6	10	-6	15	15	-6	-6	21	21	4000
003052000007_6	-6	10	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	-6	10	-6	15	15	-6	-6	21	21	4000
003052000007_7	-6	10	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	-6	10	-6	15	15	-6	-6	21	21	4000
003052000007_8	-6	10	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	-6	10	-6	15	15	-6	-6	21	21	4000
003052000007_9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0
003052000007_10	-6	10	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	-6	10	-6	15	15	-6	-6	21	21	4000
003052000007_11	-6	10	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10	-6	10	-6	15	15	-6	-6	21	21	4000

Client Modem Receive Training Counts

Speeds	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Current TX Speed	Current RX Speed	Theoretical Maximum Throughput
0030520015CD	0	0	0	0	0	0	10	0	0	-1	-3	10	10	10	10	10	10	0	10	0	10	10	0	0	21	21	4000

Modem Details

The Modem Details function of *EtherCraft* displays comprehensive modem data. Figure 14-2 shows an example of the *EtherCraft* Modem Details page.

The following sections present a detailed look at the information available on the Modem Details page.

Figure 14-2
***EtherCraft* / Modem Details**

Address:	Type:	Firmware:	FPGA Rev:	BTEQ Rev:	Board Rev:
003052000007	Server	ELAEL120XIL_____02_00_10	5000	6010	Rev E

Ethernet Port Metrics				
Rx Frames	Rx Bytes	Rx Errors	Tx Frames	Tx Errors
8640	5056987	0	4142	0
Modem Up Time				
0 days, 1 hrs, 1 mins, 50.5 sec.				

003052000007 Port 0																							
Speeds	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Server_Tcount	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Client_Tcount	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retrain_Rx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retrain_Tx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tx_Atten	15	15	9	15	6	15	0	9	3	6	3	6	0	3	0	0	3	0	0	0	0	0	0	0
Client_TxAtten	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rx_Gain	8	8	8	8	8	8	25	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Preamp	11	11	11	11	11	11	3	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11

HDLC Port Metrics								
Rx Frames	Rx Bytes	Rx Errors	Rx Blocks	Tx Frames	Retries	Data Frames	Discard Frames	Free Buffers
0	0	0	0	0	0	0	0	1678
Local LQF			Remote LQF			Apparent Distance		
0			0			0		

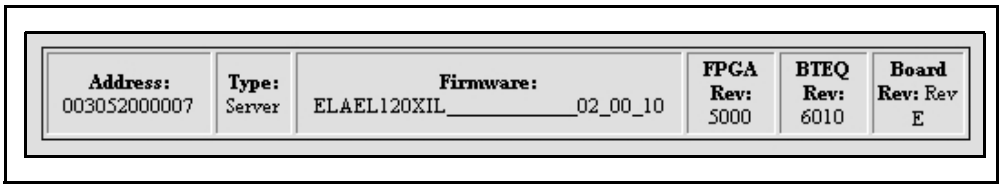
Modem identification and version table

The modem identification and version table (first table on the Modem Details page) shows the following identification and version information for each modem selected:

- MAC address of modem
- Type of modem—client or server
- Firmware version installed on modem
- Revision number of modem board
- Revision number of modem analog board

Figure 14-3 shows an example of the identification and version section.

Figure 14-3
Modem identification and version



Address:	Type:	Firmware:	FPGA Rev:	BTEQ Rev:	Board Rev:
003052000007	Server	ELAEL120XIL_____02_00_10	5000	6010	Rev E

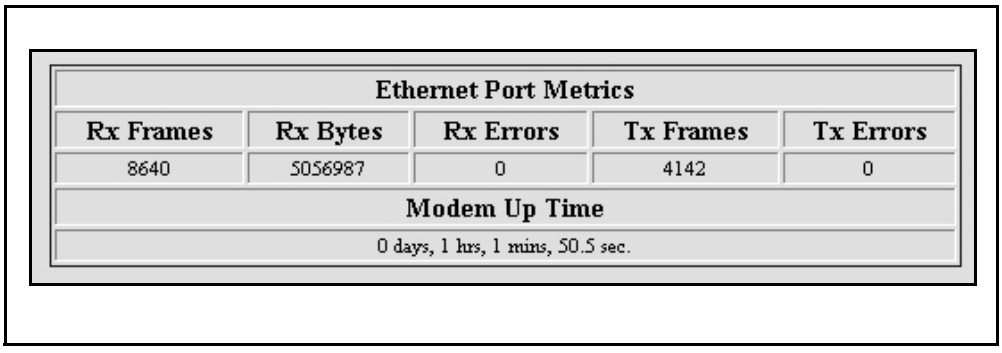
Ethernet Port Metrics

The **Ethernet Port Metrics** table (second table on the Modem Details page) includes a measurement of the following on the Ethernet side of modem communications:

- RX Frames - number of frames (or packets) received
- RX Bytes - amount of data received in bytes
- RX Errors - number of receive errors
- TX Frames - number of frames transmitted
- TX Errors - number of transmit errors
- Modem Up Time - amount of time the modem has been running since the last power-up or reset.

Figure 14-3 shows an example of the **Ethernet Port Metrics table**:

Figure 14-4
Ethernet Port Metrics table



Ethernet Port Metrics				
Rx Frames	Rx Bytes	Rx Errors	Tx Frames	Tx Errors
8640	5056987	0	4142	0
Modem Up Time				
0 days, 1 hrs, 1 mins, 50.5 sec.				

Speeds tables, modem speeds and training counts

Speeds tables follow the Ethernet Port Metrics table, and present values for these transmit and receive parameters:

- Server _Tcount—Transmit speed of CO/SE modems
- Client_Tcount—Transmit speed of CPE/CE modems
- Retrain_RX—Receive retrain count; value is '-' if run on CPE/CE modem
- Retrain_TX—Transmit retrain count; value is '-' if run on CPE/CE modem
- Tx_Atten - Attenuation in dB from the maximum transmit output power on the CO/SE modem
- Client_TxAtten -Attenuation in dB from the maximum transmit output power on the CPE/CE modem
- Rx_Gain - Gain in dB the modem had to apply to the receive channel in order to hear the far end modem
- Preamp - ain in one of four coarse settings (3, 11, 19, 27dB) applied to the receive channel to enable it to hear the far end modem

A speeds table is displayed for each modem port. For example, *EtherCraft* displays 12 speeds tables for ELMo 120 modems, numbered Port 0-Port 11. Figure 14-5 shows an example of a speed table for Port 6 of an ELMo 120 modem.

Figure 14-5
Speeds table example

003052000007 Port 6

Speeds	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Server_Tcount	-6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	-6	10	-6	15	15	-6	-6
Client_Tcount	-6	10	10	10	-4	10	10	10	10	10	10	10	10	10	10	10	10	-6	10	-6	15	15	-6	-6
Retrain_Rx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Retrain_Tx	0	1	2	0	3	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Tx_Atten	15	30	30	27	30	30	30	30	30	30	30	30	30	30	30	30	30	0	30	0	30	30	0	0
Client_TxAtten	0	16	18	14	18	16	18	18	18	18	18	18	18	18	18	18	18	0	18	0	18	18	0	0
Rx_Gain	8	1	2	0	2	1	2	2	1	2	2	2	1	1	0	0	0	8	0	8	0	0	8	8
Preamp	11	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	11	3	11	3	3	11	11

HDLC Port Metrics

An **HDLC Metrics** table is associated with each speeds table displayed for the modem port. **HDLC Metrics** include a measurement on the side of the phone link between modems. The **HDLC Metrics** table displays the following:

- RX Frames—number of frames (or packets) received
- RX Bytes—amount of data received in bytes
- RX Errors—number of receive errors
- RX Blocks - number of blocks received
- TX Frames—the number of frames transmitted
- Retries - number of re-transmission attempts
- Data Frames - number of data frames transmitted
- Discard Frames - number of HDLC discard frames
- Free Buffers - available storage for data to compensate for differences in transmission speeds or timing
- Local LQF - local line quality factor on a scale of 100
- Remote LQF - remote line quality factor on a scale of 100
- Apparent Distance - estimate of distance between server (CO/SE) and client (CPE/CE) modem to the nearest 1000 feet (displayed in Kft)

Figure 14-6 shows an example of an **HDLC Metrics** table.

Figure 14-6
HDLC Port Metrics table example

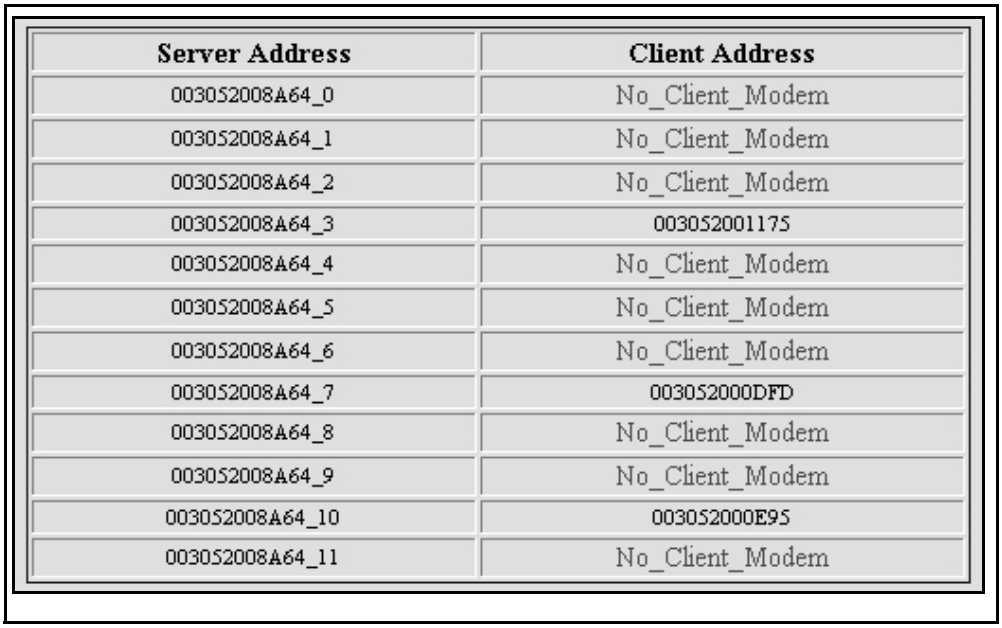
HDLC Port Metrics								
Rx Frames	Rx Bytes	Rx Errors	Rx Blocks	Tx Frames	Retries	Data Frames	Discard Frames	Free Buffers
112284	2320314	11	0	111559	0	0	0	1889
Local LQF			Remote LQF			Apparent Distance		
0			0			0		

Client Addresses

Use this function to display the MAC addresses of clients that correspond to selected server modems. The addresses are displayed in columns by type of modem. If no client modem is assigned, the system displays "No_Client_Modem."

Access this function from the EtherCraft page by clicking the Client Addresses button. Figure 14-7 shows the **Client Addresses** page.

Figure 14-7
EtherCraft Client Addresses page



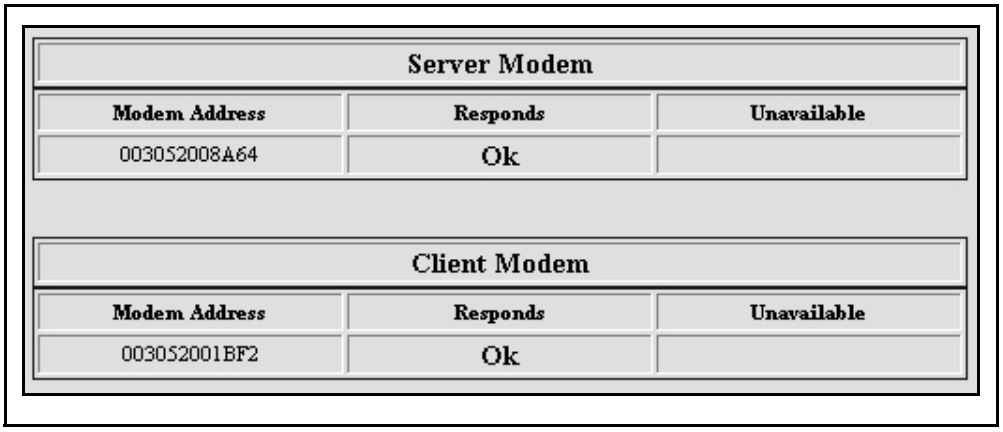
Server Address	Client Address
003052008A64_0	No_Client_Modem
003052008A64_1	No_Client_Modem
003052008A64_2	No_Client_Modem
003052008A64_3	003052001175
003052008A64_4	No_Client_Modem
003052008A64_5	No_Client_Modem
003052008A64_6	No_Client_Modem
003052008A64_7	003052000DFD
003052008A64_8	No_Client_Modem
003052008A64_9	No_Client_Modem
003052008A64_10	003052000E95
003052008A64_11	No_Client_Modem

Status

Use this function to test whether modems are responding or are unavailable. The modems are listed by MAC address. The status is either "Ok" in the **Responds** field or an "X" in the **Unavailable** field.

Access this function from the EtherCraft page by clicking the Status button. Figure 14-8 shows an example of the Status page.

Figure 14-8
***EtherCraft* Status page**



Server Modem		
Modem Address	**Responds**	**Unavailable**
003052008A64	Ok	

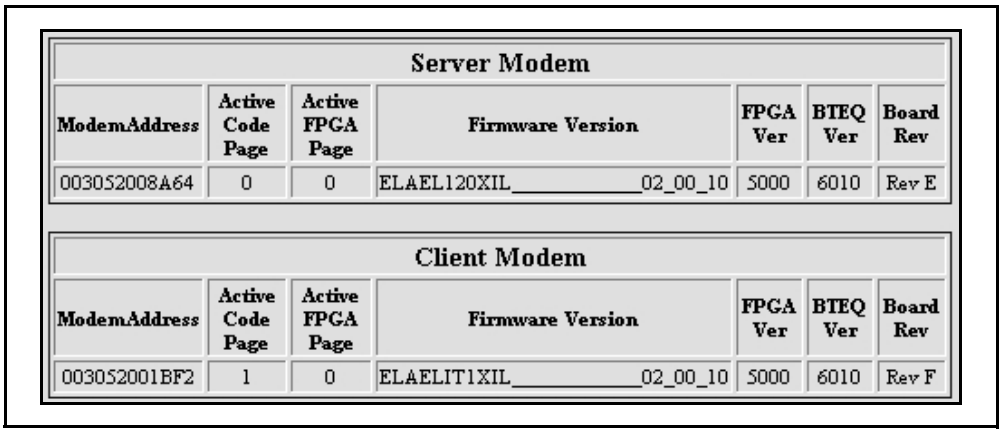
Client Modem		
Modem Address	**Responds**	**Unavailable**
003052001BF2	Ok	

Version

Use this function to retrieve firmware code page (memory location) and FPGA page information, current firmware version, and the modem printed circuit board (PCB) revision. The modems are listed by MAC address.

Access this function from the EtherCraft page by clicking the Status button. Figure 14-8 shows an example of the Status page.

Figure 14-9
***EtherCraft* Version page**



Server Modem

ModemAddress	Active Code Page	Active FPGA Page	Firmware Version	FPGA Ver	BTEQ Ver	Board Rev
003052008A64	0	0	ELAEL120XIL_____02_00_10	5000	6010	Rev E

Client Modem

ModemAddress	Active Code Page	Active FPGA Page	Firmware Version	FPGA Ver	BTEQ Ver	Board Rev
003052001BF2	1	0	ELAELIT1XIL_____02_00_10	5000	6010	Rev F

Purpose of the Version function

The EtherCraft Version screen is useful for modem support, testing, and administration., and provides a useful way track performance and troubleshoot modems as the hardware and firmware is enhanced.

The Version screen indicates the code page (memory location) that is active for the modem code page and FPGA (field programmable gate array) code page. FPGAs are programmable logic chips with a high density of gates that the modem uses in signal processing. In the modems, the value for the active code page is either 0 or 1. The code page swaps with each upgrade that is downloaded to the modem.

Version page field values

The version information includes the following values for each modem:

- Active Code Page—values are either 0 or 1 for the active memory location for the modem code
- Active FPGA Page—values are either 0 or 1 for the active memory location for the FPGA code
- Firmware Revision—current firmware version being used by the modem
- Board Revision—modem printed circuit board revision for the selected modem

Clear Logs

Use this function to clear selected EtherCraft logs. Clearing EtherCraft logs offers a way to remove current entries from the following logs:

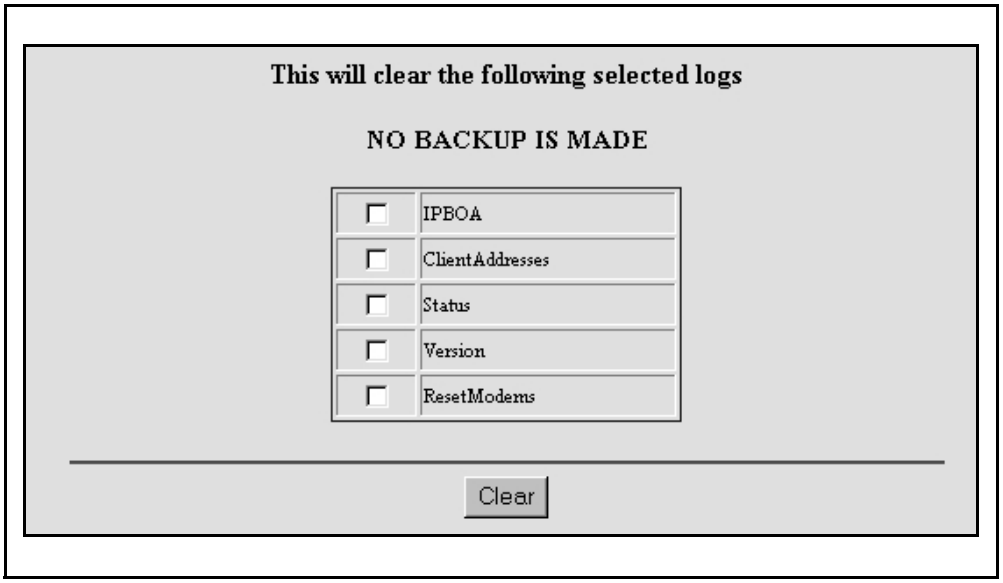
- IPBOA (same as "Modem Details")
- Client Address
- Status
- Version
- Reset Modems

> ***CAUTION - Removing EtherCraft logs is permanent***
> When clearing EtherCraft logs no backup is made for the logs. By clearing the logs you remove entries permanently from the EtherCraft log files.

Access this function from the EtherCraft page by clicking the Clear Logs button. On the Clear Logs page, click the logs you want to remove or click **Return to start** to clear your selections on the Clear logs screen without clearing the log files.

Figure 14-10 shows an example of the Clear Logs page.

Figure 14-10
***EtherCraft* Clear Logs page**



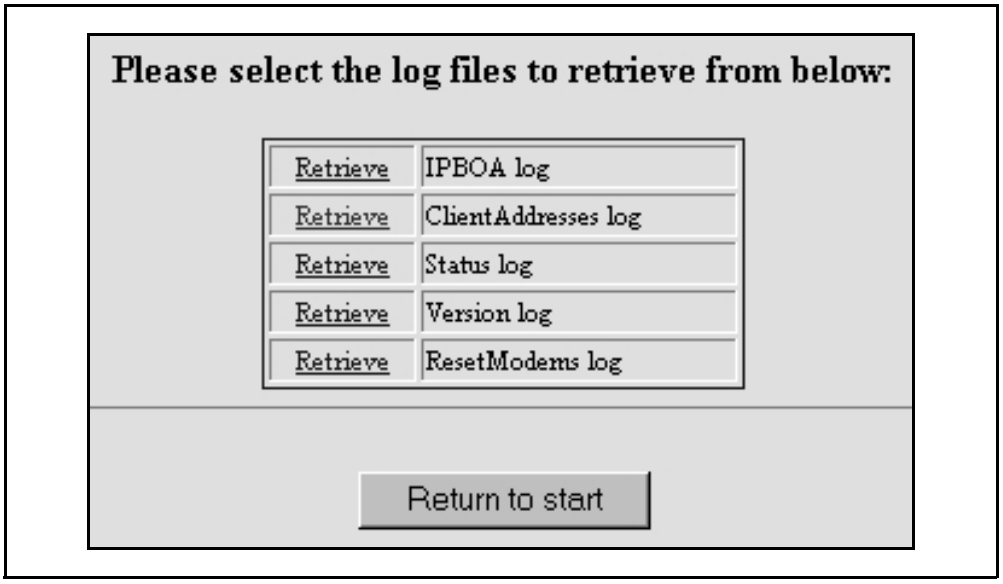
Get Logs

Use this function to download selected EtherCraft logs. Log files are stored in a CSV (comma separated value) file format. Upon retrieval, the log files are automatically converted into a Microsoft *Excel* file that can be saved on the local workstation or network.

Access this function from the EtherCraft page by clicking the Get Logs button. On the Clear Logs page, click the logs you want to retrieve or click **Return to start** to clear your selections on the Get Logs page without retrieving the log files.

Figure 14-11 shows an example of the Get Logs page.

Figure 14-11
***EtherCraft* Get Logs page**



Reset Modems

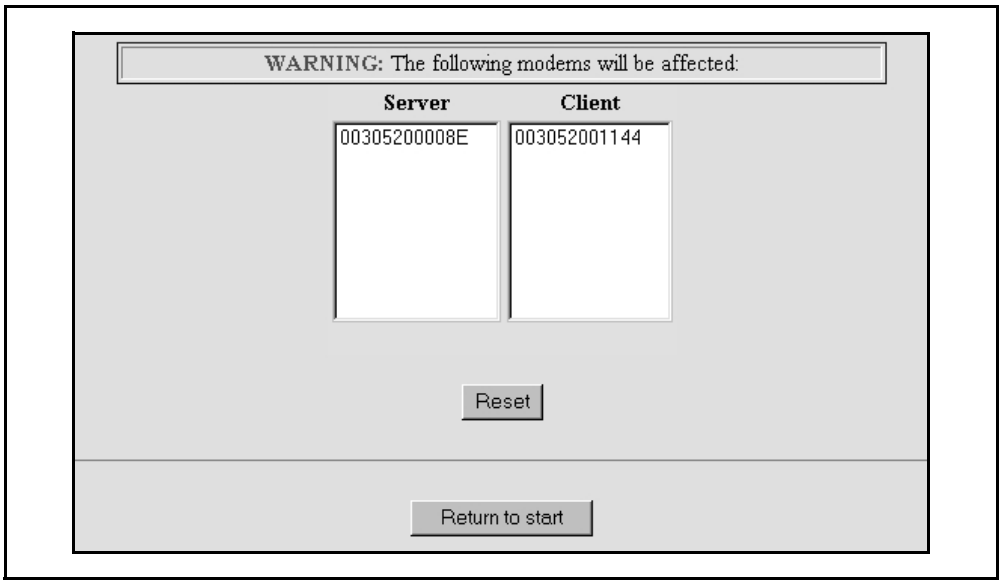
Use this function to reset selected modems. Resetting the modems clears current activity from the modem and restarts modem operation.

> ***CAUTION - Reset Modems causes loss of service***
> This procedure will cause temporary loss of service. Do only at low-traffic periods

Access this function from the EtherCraft page by clicking the Reset Modems button. On the Clear Logs page, click the logs you want to retrieve or click **Return to start** to clear your selections on the Get Logs page without retrieving the log files.

Figure 14-11 shows an example of the Reset Modems page.

Figure 14-12
***EtherCraft* Reset Modems page**



Using the Download Utilities module

This chapter describes how to use the Download Utilities module.

Chapter Contents

This chapter includes the following information.

Topic	See
Download Utilities purpose and function	page 15-2
Using Download Utilities	page 15-2
Downloader status and logs	page 15-2

Chapter task list

This chapter includes the following tasks.

Procedure	Task	See
15-1	Upgrading EtherLoop modem firmware	page 15-3
15-2	Upgrading from Generation 1 to Generation 2 modem firmware	page 15-6

Download Utilities purpose and function

The *Download Utilities* module is used to download firmware and FPGA (field programmable gate array) code for any number of Elastic system modems. These modems are selected by querying the modem database. The *Download Utilities* module examines the file header when told to download a certain file to the modem to verify the authenticity, type, and reliability of the file. Downloader monitors and displays the progress of a download and alerts the operator if any problems occurred during the download.

Using *Download Utilities*

EtherLoop modem firmware upgrades can use either FPGA (field programmable gate array) code or modem firmware. The overall process of upgrading EtherLoop modem firmware consists of uploading the new firmware to the YWS from a diskette or a location on a reachable network, and then downloading the firmware to the modems managed by the system YWS.

Procedure 15-1 on page 15-3 describes the steps required to upgrade the firmware and/or FPGA code on a YWS.

Downloader options

When using *Downloader*, you will select the following options:

- **Database.** This is the database where modem MAC addresses are stored. Currently, "System Inventory" is the only selection.
- **Modem(s) to which you will be downloading or uploading.** The available MAC addresses for the System Inventory Database include:
  - CO Modems: All of the CO/SE modems available in the currently selected database.
  - CPE Modems: All of the CPE/CE modems available in the currently selected database.

> ***CAUTION - Avoid firmware version conflicts***
> CO/SE and CPE/CE modems can be selected individually or in groups for the firmware upgrade. To avoid firmware version conflicts, **always** upgrade modem pairs (CO/CPE) simultaneously. This can be done automatically by selecting the option to "Auto-select all modems in the same Server/Client group" in the *Downloader* Main Menu.

- **Firmware/FPGA.** This is the file containing the firmware for each of these firmware types to download to the selected modems.

Downloader status and logs

Downloader's View Last Status and View Logs functions in allow you to view the status of the last download or upload, or view the history log of all downloads performed.

Procedure 15-1
Upgrading EtherLoop modem firmware

Use this procedure to upgrade the EtherLoop modem firmware using the *Download Utilities* module.

Requirements

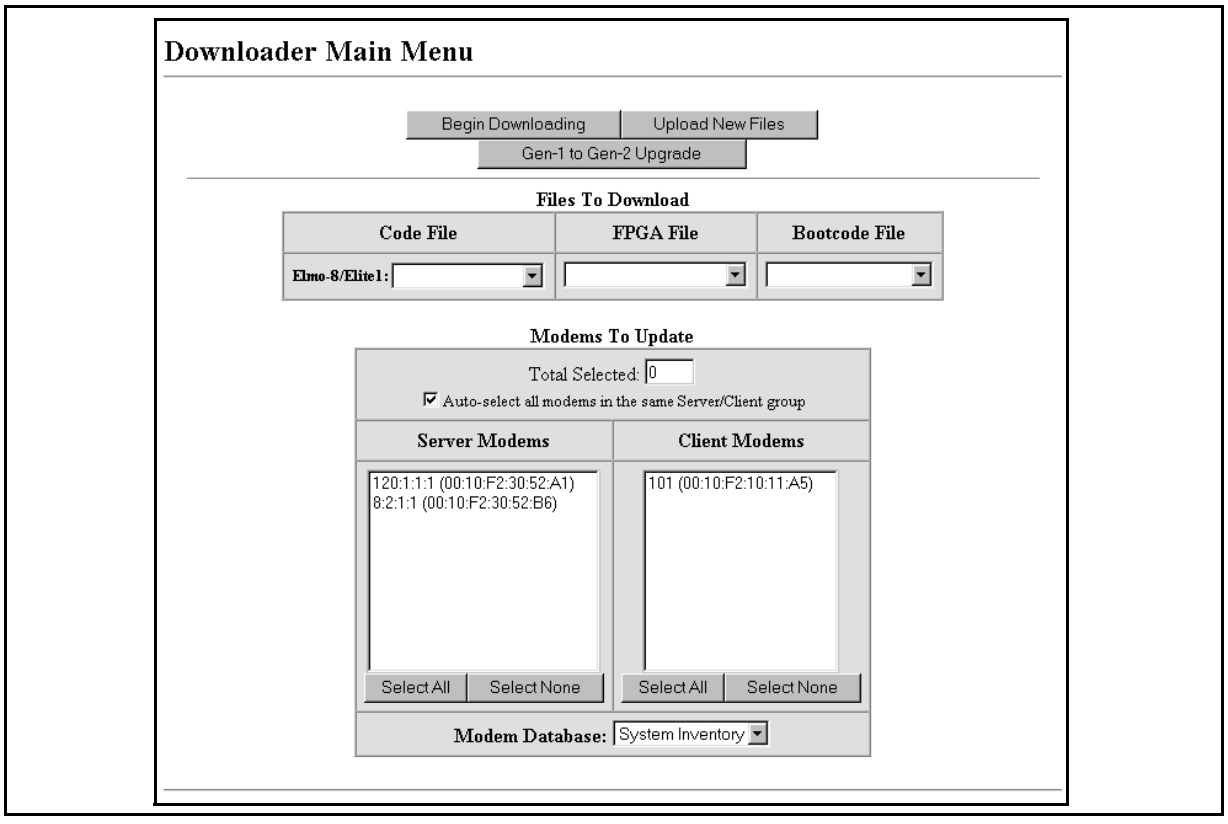
To do this procedure, you need the following:

- A file containing the new modem firmware and/or FPGA code on a 3.5-inch diskette, local workstation or reachable network location.

Action

Step	Action
1	From the YesWare Main Menu, choose *Downloader*. *The Download Utilities Main Menu appears as shown in Figure 15-1.*

Figure 15-1
***Downloader* Main Menu**

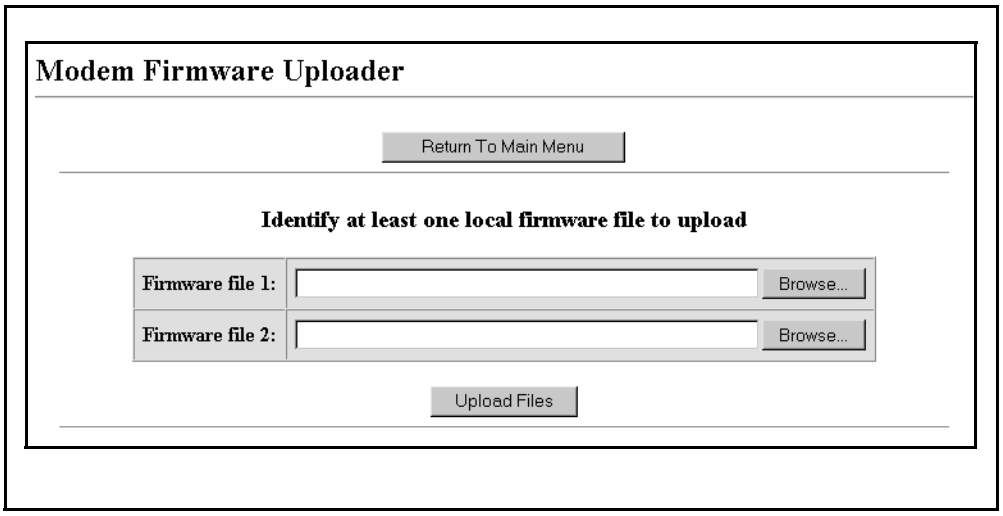


—continued—

Procedure 15-1 (continued)
Upgrading EtherLoop modem firmware

Step	Action
2	Click the "Upload New Files" button. *The Download Utilities / Modem Firmware Uploader appears as shown in Figure 15-2.*

Figure 15-2
***Download Utilities* / Modem Firmware Uploader**



3	Browse to the location of the file containing the new load for the modem firmware/FPGA code.
4	Click the "Upload Files" button. The system installs the new load into the YWS "downloader" directory.
5	When all files have been uploaded, click the "Return To Main Menu" button.
6	In the *Download Utilities* Main Menu, use the "Files To Download" pull-down menus and select the newly-uploaded **Firmware/FPGA** load(s).
7	In the "Modems To Update" section of the page, select the modem database and modems to receive the upgraded firmware/FPGA code.
8	Click the "Begin Downloading" button to begin upgrading the modems and modem database.

—continued—

Procedure 15-1 (continued)
Upgrading EtherLoop modem firmware

Step	Action
	When the download is complete, the system displays a **Download Status** page with the following information: • status of download (complete) • start and end times of download • file name of firmware code used in download • number of modems that receiving download • percent of file transfers completed (%) • percent of modem programming completed (%) • number of failed downloads • number of modem resets completed In addition, a second table on the **Download Status** page displays the following results for any failed downloads: • modem MAC address(es) • modem type (CO or CPE) • download type (Firmware/FPGA Code) • reason for download failure

You have completed this task.

Procedure 15-2
Upgrading from Generation 1 to Generation 2 modem firmware

Use this procedure to upgrade ELMo 8 and Elite EtherLoop modem firmware from Generation 1 to Generation 2.

Requirements

To do this procedure, you need the following:

- A file containing the Generation 2 modem firmware on a 3.5-inch diskette, local workstation or reachable network location. Generation 2 firmware fil names all begin with "02_". The firmware required for this procedure includes two files with the following file name format:
  - **02_xx_xx_boot.bin**
  - **02_xx_xx_e1.bin**

EtherLoop modem firmware files named **02_xx_xx_mp.bin** are **m**ulti**p**lexer firmware files and are upgraded using the standard firmware upgrade procedure described in Procedure 15-1 on page 15-3. There is no Gen. 1 multiplexer firmware.

Special procedure requirements

The following should be noted about this procedure:

- Gen-1 to Gen-2 firmware upgrades can take up to **15 minutes per modem pair**. Do not stop the procedure until the "complete" window appears as described in this procedure.
- The web browser of the PC performing the upgrade must be left with the *Download Utilities* / **Gen-1 to Gen-2 Upgrade Menu** as the active browser window. No other web browser windows should bel launched during the upgrade procedure.
- Always ensure the "Auto-select both modems of a Server/Client pair" box is checked and upgrade modem firmware in the assigned CO/CPE pairs.

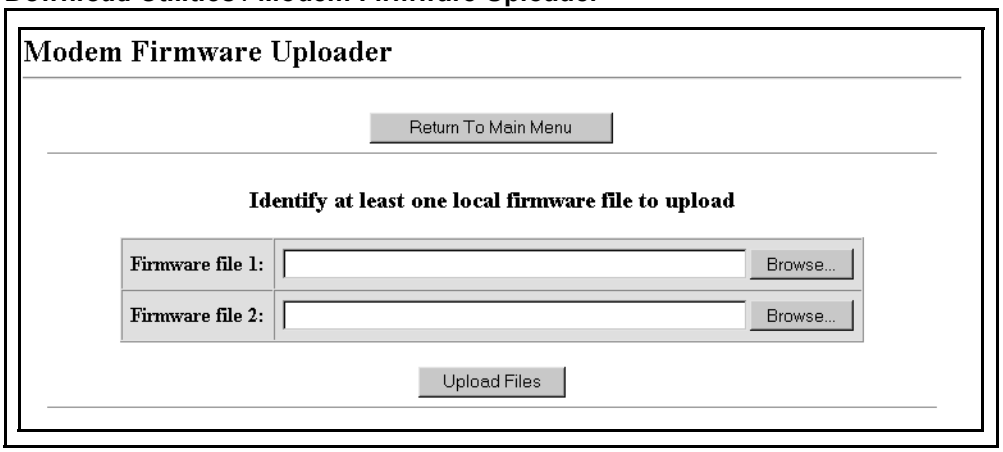
—continued—

Procedure 15-2 (continued)
Upgrading from Generation 1 to Generation 2 modem firmware

Action

Step	Action
1	From the Download Utilities main menu, click the "Upload New Files" button to launch the **Modem Firmware Uploader** dialog as shown in Figure 15-2.

Figure 15-3
***Download Utilities* / Modem Firmware Uploader**



2	Browse to the location of the file containing the new load for the modem firmware files.
3	Click the "Upload Files" button. The system installs the new load into the YWS "downloader" directory.
4	When all files have been uploaded, click the "Return To Main Menu" button.

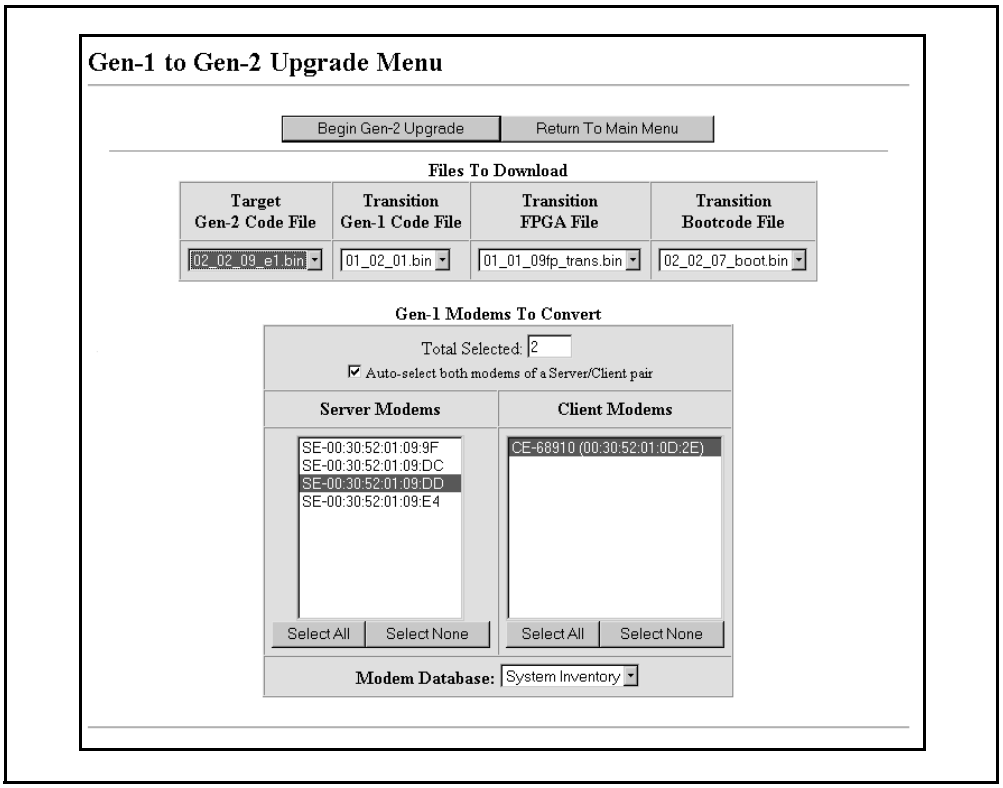
—continued—

Procedure 15-2 (continued)
Upgrading from Generation 1 to Generation 2 modem firmware

Step	Action

5 In the *Download Utilities* Main Menu, select "Gen-1 to Gen-2" upgrade to launch the **Gen-1 to Gen-2 Upgrade Menu**.See Figure 15-4.

Figure 15-4
Gen-1 to Gen-2 Upgrade Menu



6 Use the "Target Gen-2 Code File" pull-down menu and select the newly-uploaded Gen-2 firmware load. The remaining **Files To Download** ("Transition Gen-1 Code File," "Transition FPGA File," and "Transition Bootcode File") firmware loads are autofilled by the system.

7 In the "Gen-1 Modems To Convert" section of the page, select the modem database and modems to receive the upgraded firmware code.

8 Click the "Begin Gen-2 Upgrade" button to begin upgrading the modems and modem database.

—continued—

Procedure 15-2 (continued)
Upgrading from Generation 1 to Generation 2 modem firmware

Step	Action
	When the Gen-2 upgrade is complete, the system displays a **Downloader Status** page as shown in Figure 15-5.

Figure 15-5
Firmware Gen-2 upgrade complete

Downloader Status

Return To Main Menu

Gen-2 Upgrade: Conversion from Gen-1 to Gen-2 completed successfully
Current Status: Complete
Started: Mon Sep 11 12:23:11 2000
Ended: Mon Sep 11 12:37:37 2000

Download Type	File	Modems Selected	File Transfers Completed	Programming Completed	Failed	Resets Completed
CODE	02_02_09_e1.bin	2	2 (100%)	2 (100%)	0	2

Successful Modems

Modem	Modem Type	Download Type	Status	File
CE-15280 (00:10:F2:00:3B:B0)	CPE	CODE	Download completed successfully	01_02_01.bin
SE-00:30:52:01:09:4F	CO	CODE	Download completed successfully	01_02_01.bin
CE-15280 (00:10:F2:00:3B:B0)	CPE	CODE	Download completed successfully	01_02_01.bin
SE-00:30:52:01:09:4F	CO	CODE	Download completed successfully	01_02_01.bin
CE-15280 (00:10:F2:00:3B:B0)	CPE	BOOT	Download completed successfully	02_02_07_boot.bin
SE-00:30:52:01:09:4F	CO	BOOT	Download completed successfully	02_02_07_boot.bin
CE-15280 (00:10:F2:00:3B:B0)	CPE	CODE	Download completed successfully	02_02_09_e1.bin
SE-00:30:52:01:09:4F	CO	CODE	Download completed successfully	02_02_09_e1.bin

STOP

You have completed this task.

APPENDIX A

YESWARE MANAGEMENT USING SNMP

Software Release 2.30

Remote YesWare Management using SNMP

This chapter describes the use of the YesWare SNMP Agent and its supported MIBs. The purpose of YesWare SNMP is to provide Simple Network Management Protocol (SNMP) support to remotely monitor and configure YesWare EtherLoop and Ethernet components.

The YWS Server does not contain an SNMP "Network Manager." EtherLoop SNMP Management tasks are performed on a separate Network Management Station (NMS) using third-party Network Managers (such as HP OpenView) that support the SNMP protocol.

Chapter Contents

This chapter includes the following information.

Topic	See
YesWare SNMP components	page A-2
Using YesWare SNMP	page A-3
YesWare EtherLoop MIB	page A-4
Example SNMP Network Manager with EtherLoop MIB	page A-5
EtherLoop Traps	page A-13
MIB II System Group MIB	page A-18
MIB II SNMP Group MIB	page A-20

Chapter task list

This chapter includes the following tasks.

Procedure	Task	See
A-1	Configuring SNMP	page A-23
A-2	Monitoring and Changing the Status of the SNMP Proxy Agent	page A-25

YesWare SNMP components

The YWS Server SNMP component supports a number of standard and private SNMP management information bases (MIBs). Table A-1 lists the SNMP components of the YesWare.

Table A-1
YesWare SNMP components

Component	Description
Operating System	YesWare EON
Code Dependencies	SNMP component is an integrated part of YesWare software. It requires that the YesWare base, ModeX Daemon and other components are present.
Supported Protocols	SNMPv1, RFC 1157 SNMPv2c, numerous RFCs including 1901-1908
Supported MIBs	MIB II system and snmp groups, RFC 1213 Elastic Networks EtherLoop private MIB (an SMIv2-RFC1902 MIB) Elastic Networks EloopSwitch private MIB (an SMIv2-RFC1902 MIB)

YesWare supported MIBs

The MIB is a file that defines the managed objects in a network management system. The MIB is the interface between the SNMP agent and the SNMP Network Manager. The YesWare SNMP Agent supports the following MIBs:

- **Elastic Networks EtherLoop Modem MIB**. The EtherLoop Modem MIB is a private MIB, which specifically defines the objects for managing the EtherLoop modems. The Elastic Networks EtherLoop Modem MIB is named enelmdm2.mib and is contained on the MIB floppy disk included with the YesWare Port Manager Software.
- **Elastic Networks EloopSwitch MIB.** The eloopSwitch MIB is a private MIB that defines the objects for managing ethernet switches on the eth1 (private side) of the YesWare Server. The Elastic Networks eloopSwitch MIB is named enelsw.mib and is contained on the MIB floppy disk included with the YesWare Port Manager Software.
- **System MIB**. The YesWare SNMP Agent supports the MIB II system group MIB. This is a standard MIB that is available as RFC 1213.
- **SNMP MIB**. The YesWare SNMP Agent supports the MIB II SNMP group MIB. This is a standard MIB that is available as RFC 1213

Using YesWare SNMP

In order for a network manager to manage the YesWare SNMP Agent, the user must load the Elastic Networks private MIBs into their SNMP Network Manager (e.g., HP OpenView) using the procedure accompanying their Network Manager software.

This procedure to load and compile a MIB is specific to the Network Manager software. The procedure usually consists of simply copying the MIB file to a certain directory and selecting a menu item to load and compile the MIB. Users should refer to the documentation provided with their Network Manager software for the procedure to load and compile MIBs.

YesWare SNMP web interface

The YesWare *SNMP* module provides functions to install, upgrade, stop, start, and edit the configuration parameters for the YesWare SNMP Agent. In addition, the *SNMP* module contains a function that retrieves the most current version of the EtherLoop MIB text file used to manage the modems.

Editing the SNMP configuration parameters

The Configure SNMP function contains variables to set the timeout value for waiting on a response from a modem as well as the frequency to poll the modems. If traps are desired, the user must enter the IP address to receive the traps. The SNMP Agent should be restarted after changing a configuration variable. Table A-2 shows an example configuration with explanations.

Table A-2
YesWare SNMP web configuration

Example SNMP Configuration	Explanation
TRAPIP = 10.255.255.125	Sets the IP address to send traps. If blank, traps are disabled.
TIMEOUT = 2	Sets timeout to 2 seconds. This is the time to wait before timing out when trying to communicate with a modem. If variable not present the value defaults to 3 seconds.
POLLTIME = 120	Sets poll time to 120 seconds. This is the time to wait between polling for modem data. If variable not present or less than 30, the value defaults to 30 seconds.

YesWare EtherLoop MIB

The YesWare SNMP Agent supports an Elastic Networks EtherLoop Modem private MIB for managing EtherLoop Modems. The EtherLoop Modem MIB is implemented under the Enterprises tree under the Elastic Networks private Object Identifier. The MIB is a SNMPv2 compliant MIB that conforms to RFC 1902.

Table A-3 lists the community strings for accessing the EtherLoop Modem private MIB.

Table A-3
EtherLoop MIB community strings

Community string	Value
read	“public”
write	“eloop”
trap	“public”

MIB modem tables and traps

The EtherLoop Modem MIB (enelmdm2.mib) defines two similar sets of three tables of variables that apply to CO and CPE modems, and one table that applies to both CO and CPE modems. Additionally, five event notifications (SNMP Traps) are defined by the MIB.

All tables (except the System Table) are indexed by a modem index (mdmIndex). This index is an integer assigned to the modem upon initialization and remains constant across tables from one initialization of the agent to another.

The “Example SNMP Network Manager with EtherLoop MIB” on page A-5 details these seven tables and five traps.

Example SNMP Network Manager with EtherLoop MIB

This section contains screen shots of SNMPc, an SNMP manager, from Castle Rock Computing, Inc. being used to manage the EtherLoop Agent.

EtherLoop Modem System Table

The **EtherLoop Modem System Table** defines variables that are associated with the EtherLoop system rather than the individual modems. The table contains two rows of variables; one for CO modems and one for CPE modems.

Figure A-1 shows an example screen shot of the EtherLoop Modem System Table. Table A-4 on page A-6 details the supported MIB variables for the EtherLoop Modem System Table.

Figure A-1
EtherLoop Modem System Table managed by SNMPc Manager from CastleRock.

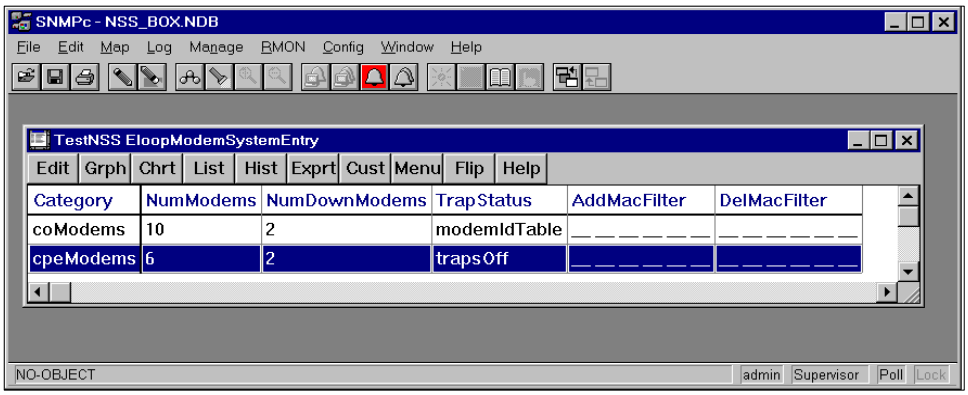

SNMPc - NSS_BOX.NDB
File Edit Map Log Manage RMON Config Window Help
TestNSS EloopModemSystemEntry
Edit Grph Chrt List Hist Exprt Cust Menu Flip Help
Category NumModems NumDownModems TrapStatus AddMacFilter DelMacFilter
coModems 10 2 modemIdTable
cpeModems 6 2 trapsOff
NO-OBJECT admin Supervisor Poll Lock

Table A-4
MIB variables for the EtherLoop Modem System Table

Object Name	Description	Access	Syntax
modemSysCategory	The index for the table. Specifies the category for the data is for CO modems or CPE modems.	read-only	INTEGER coModems cpeModems
modemSysNumModems	The number of modems present for this category.	read-only	Integer32
modemSysNumDownModems	The number of modems, for this category, that have linkStatus of down.	read-only	Integer32
modemSysTrapStatus	The status of sending traps for all modems for this category. If a valid trap destination is not configured in the SNMP setup, trapsOff is returned and sets are disabled. Descriptions for the options are given below. trapsOff – all traps are off. modemIdTable – trap status is controlled individually for each modem and is set in the modemIdTable. setAllOn – set trap status for all modems in the modemId table to trapsOn. Then set this value to modemIdTable. setAllOff – set trap status for all modems in the modemId table to trapsOff. Then set this value to modemIdTable. setAllDnTrapsOff – set trap status for all modems in the modemId table to modemDownTrapOff. Then set this value to modemIdTable.	read-write	INTEGER trapsOff modemIdTable setAllOn setAllOff setAllDnTrapsOff
modemSysAddMacFilter	Add a MAC Filter address for all modems in this category. Enter a space separated MAC address. e.g., 10 00 F2 00 21 08.	read-write	DisplayString
modemSysDelMacFilter	Delete a MAC Filter address for all modems in this category. Enter a space separated MAC address. e.g., 10 00 F2 00 21 08. To clear all MAC Filter addresses for all modems, enter the address 00 00 00 00 00 00.	read-write	DisplayString

EtherLoop CO and CPE Id Tables

The EtherLoop Id table provides information primarily for identifying the modems. The table contains a row for each modem identified in the system. Separate Id tables exist for CO and CPE modems.

The figure below shows an example screen shot of the EtherLoop Modem CO Id and CPE Id tables. Table A-5 on page A-8 details the MIB variables supported by these tables.

Figure A-2
EtherLoop Modem CO Id and CPE Id tables

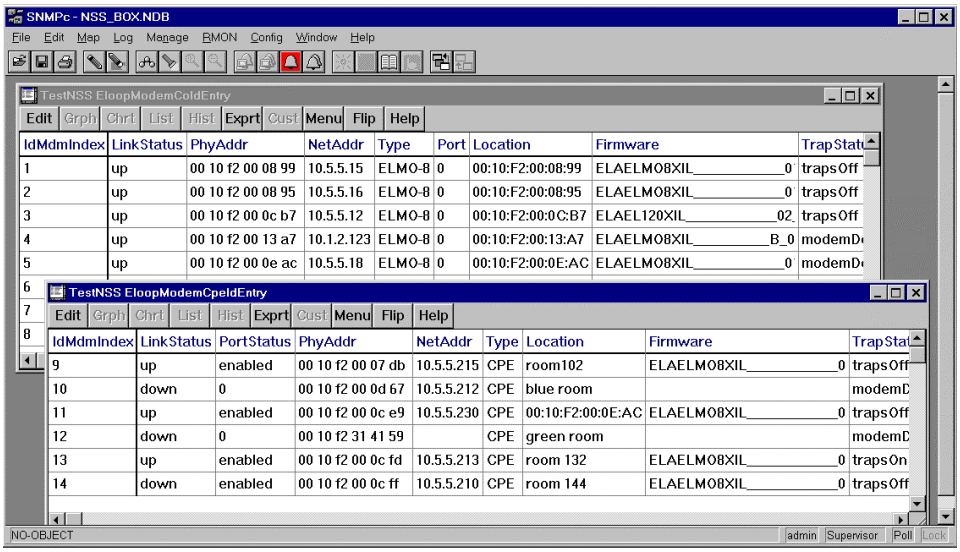

SNMPc - NSS_BOX.NDB
File Edit Map Log Manage RMON Config Window Help
TestNSS EloopModemColdEntry
Edit Grph Chrt List Hist Exprt Cust Menu Flip Help
IdMdmIndex LinkStatus PhyAddr NetAddr Type Port Location Firmware TrapStatu
1 up 00 10 f2 00 08 99 10.5.5.15 ELMO-8 0 00:10:F2:00:08:99 ELAELM08XIL_____0 trapsOff
2 up 00 10 f2 00 08 95 10.5.5.16 ELMO-8 0 00:10:F2:00:08:95 ELAELM08XIL_____0 trapsOff
3 up 00 10 f2 00 0c b7 10.5.5.12 ELMO-8 0 00:10:F2:00:0C:B7 ELAEL120XIL_____02_ trapsOff
4 up 00 10 f2 00 13 a7 10.1.2.123 ELMO-8 0 00:10:F2:00:13:A7 ELAELM08XIL_____B_0 modemD
5 up 00 10 f2 00 0e ac 10.5.5.18 ELMO-8 0 00:10:F2:00:0E:AC ELAELM08XIL_____0 modemD
TestNSS EloopModemCpeIdEntry
Edit Grph Chrt List Hist Exprt Cust Menu Flip Help
IdMdmIndex LinkStatus PortStatus PhyAddr NetAddr Type Location Firmware TrapStat
9 up enabled 00 10 f2 00 07 db 10.5.5.215 CPE room102 ELAELM08XIL_____0 trapsOff
10 down 0 00 10 f2 00 0d 67 10.5.5.212 CPE blue room modemD
11 up enabled 00 10 f2 00 0c e9 10.5.5.230 CPE 00:10:F2:00:0E:AC ELAELM08XIL_____0 trapsOff
12 down 0 00 10 f2 31 41 59 CPE green room modemD
13 up enabled 00 10 f2 00 0c fd 10.5.5.213 CPE room 132 ELAELM08XIL_____0 trapsOn
14 down enabled 00 10 f2 00 0c ff 10.5.5.210 CPE room 144 ELAELM08XIL_____0 trapsOff
NO-OBJECT admin Supervisor Poll Lock

Table A-5
MIB variables for EtherLoop Modem CO Id and CPE Id tables

Object Name	Description	Access	Syntax
IdMdmIndex	The index for each modem interface. The index remains constant from one initialization of the subagent to another. It extends across all tables and uniquely identifies all modems.	read-only	Integer32
ModemLinkStatus	The current link status of this modem.	read-only	INTEGER up down
ModemPortStatus	The current link status of the modem. The value of this variable relates whether the modem's ethernet port is enabled or disabled. The current value of this variable is read from the modem and is updated every poll interval. This variable is for CPE modems only.	read-write	INTEGER (1) enabled (2) notEnabled
ModemPhyAddr	The physical (MAC) address for this modem.	read-only	OCTET STRING (size (6))
ModemNetAddr	The network (IP) address for this modem.	read-only	DisplayString
ModemType	The type of modem. note: for CO modems – ELMO-8 or ELMO-120 for CPE modems – CPE	read-only	DisplayString
ModemPort	The port number for this CO modem. CO modems support up to 12 CPE modems. Note: This field is not displayed in the CPE Id table.	read-only	Integer32
ModemLocation	The location of this modem.	read-only	DisplayString
ModemFirmware	The current firmware version of this modem.	read-only	DisplayString
ModemTrapStatus	The status of sending traps for this modem. If the trapStatus variable in the modemSysTable is set to trapsOff, the value of this field is not active. Descriptions for the options are given below. **trapsOn**– all traps are on (enabled) for this modem. **trapsOff** – all traps are off (disabled) for this modem. **modemDownTrapOff** – the modemDown trap is off (disabled) for this modem. Other traps for this modem are enabled.	read-write	INTEGER trapsOn trapsOff (3) modemDownTrapOff

EtherLoop CO and CPE Statistics Tables

The EtherLoop Statistics Table provides statistic information for modems. The table contains a row for each modem identified in the system. Separate Statistic tables exist for CO and CPE modems.

Figure A-3 shows an example screen shot of the EtherLoop CO Stat and CPE Stat tables. Table A-6 on page A-10 details the MIB variables supported by these tables.

Figure A-3
EtherLoop CO Stat and CPE Stat Tables managed by SNMPc Manager from CastleRock

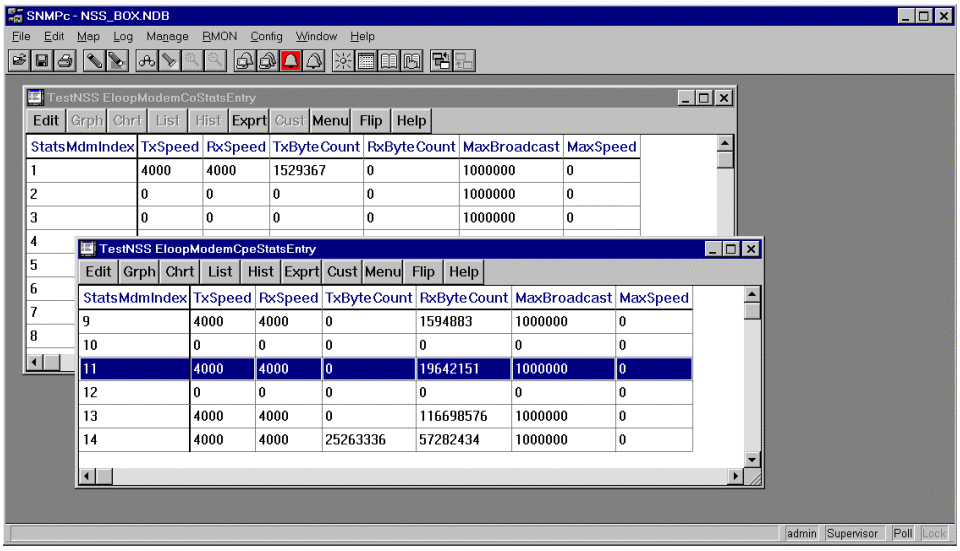

SNMPc - NSS_BOX.NDB
File Edit Map Log Manage RMON Config Window Help
TestNSS EloopModemCoStatsEntry
Edit Grph Chrt List Hist Exprt Cust Menu Flip Help
StatsMdmIndex TxSpeed RxSpeed TxByteCount RxByteCount MaxBroadcast MaxSpeed
1 4000 4000 1529367 0 1000000 0
2 0 0 0 0 1000000 0
3 0 0 0 0 1000000 0
4
5
6
7
8
TestNSS EloopModemCpeStatsEntry
Edit Grph Chrt List Hist Exprt Cust Menu Flip Help
StatsMdmIndex TxSpeed RxSpeed TxByteCount RxByteCount MaxBroadcast MaxSpeed
9 4000 4000 0 1594883 1000000 0
10 0 0 0 0 0 0
11 4000 4000 0 19642151 1000000 0
12 0 0 0 0 0 0
13 4000 4000 0 116698576 1000000 0
14 4000 4000 25263336 57282434 1000000 0
admin Supervisor Poll Lock

Table A-6
MIB variables for EtherLoop CO Stat and CPE Stat tables

Object Name	Description	Access	Syntax
StatsMdmIndex	The index for each modem interface. The index remains constant from one initialization of the subagent to another. It extends across all tables and uniquely identifies all modems.	read-only	Integer32
ModemTxSpeed	The transmit speed for this modem.	read-only	Integer32
ModemRxSpeed	The receive speed for this modem.	read-only	Integer32
ModemTxByteCount	The transmit byte count for this modem	read-only	Counter32
ModemRxByteCount	The receive byte count for this modem.	read-only	Counter32
ModemMaxBroadcast	The maximum number of broadcast messages that can be sent for this modem. Broadcast storm management is the ability of the modems to throttle broadcasts generated by a particular client, limiting the total number of broadcast messages seen in one second to a specified limit.	read-write	Integer32
ModemMaxSpeed	The maximum allowable speed that this modem may support. Valid values are: 125 kbps 178 kbps 250 kbps 357 kbps 500 kbps 714 kbps 1000 kbps 1428 kbps 1666 kbps 2000 kbps 2857 kbps 3333 kbps 4000 kbps	read-write	Integer32

EtherLoop CO and CPE MAC Filter Tables

The EtherLoop MAC Filter Table provides the ability to manage the MAC Filters for each modem. MAC Filtering is a means whereby communications between modems may be prevented based on MAC addresses. This privacy feature prevents traffic from other clients on the CO LAN from appearing at the CPE modem.

Thus, a particular client cannot see traffic destined for other clients. In addition, only registered hosts connected to the CPE modem can make use of the connection. If no MAC addresses appear in the MAC Filter table for a particular modem, it will pass all Ethernet traffic. If any MAC addresses appear in the MAC Filter table for a particular modem, the modem will only accept Ethernet packets for those addresses.

Figure A-4 shows an example screen shot for the EtherLoop Modem CO MAC Filter and CPE MAC Filter tables. Table A-7 on page A-12 details the MIB variables supported by these tables.

Figure A-4
EtherLoop Modem CO MAC Filter and CPE MAC Filter Tables managed by SNMPc Manager from CastleRock

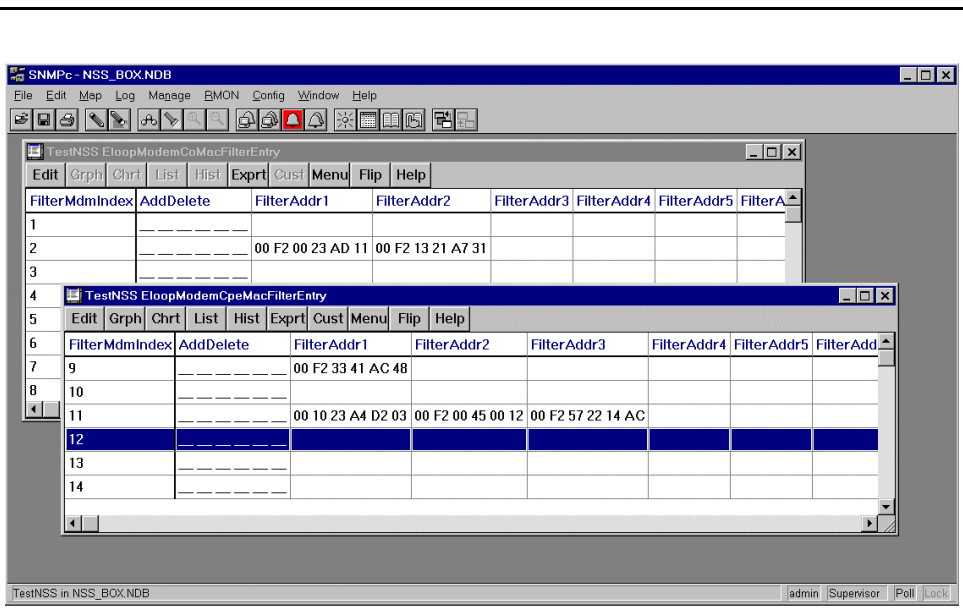

SNMPc - NSS_BOX.NDB
File Edit Map Log Manage RMON Config Window Help
TestNSS EloopModemCoMacFilterEntry
Edit Grph Chrt List Hist Exprt Cust Menu Flip Help
FilterMdmIndex AddDelete FilterAddr1 FilterAddr2 FilterAddr3 FilterAddr4 FilterAddr5 FilterA
1
2 00 F2 00 23 AD 11 00 F2 13 21 A7 31
3
TestNSS EloopModemCpeMacFilterEntry
Edit Grph Chrt List Hist Exprt Cust Menu Flip Help
FilterMdmIndex AddDelete FilterAddr1 FilterAddr2 FilterAddr3 FilterAddr4 FilterAddr5 FilterAdd
9 00 F2 33 41 AC 48
10
11 00 10 23 A4 D2 03 00 F2 00 45 00 12 00 F2 57 22 14 AC
12
13
14
TestNSS in NSS_BOX.NDB
admin Supervisor Poll Lock

Table A-7
MIB variables for EtherLoop Modem CO MAC Filter and CPE MAC Filter Tables

Object Name	Description	Access	Syntax
FilterMdmIndex	The index for each modem interface. The index remains constant from one initialization of the subagent to another. It extends across all tables and uniquely identifies all modems.	read-only	Integer32
ModemMacAddDelete	The Add/Delete field for MAC Filter addresses for this modem. Enter a space separated MAC address e.g., 10 00 F2 00 21 08. If the MAC address already exists in the table for this modem, it is deleted. If the address does not already exist in the table, it is added. To clear all MAC Filter addresses for this modem enter the address 00 00 00 00 00 00.	read-write	DisplayString
ModemMacFilterAddr1	A MAC Filter address in the MAC Filter table for this modem.	read-only	DisplayString
ModemMacFilterAddr2	A MAC Filter address in the MAC Filter table for this modem.	read-only	DisplayString
ModemMacFilterAddr3	A MAC Filter address in the MAC Filter table for this modem.	read-only	DisplayString
ModemMacFilterAddr4	A MAC Filter address in the MAC Filter table for this modem.	read-only	DisplayString
ModemMacFilterAddr5	A MAC Filter address in the MAC Filter table for this modem.	read-only	DisplayString
ModemMacFilterAddr6	A MAC Filter address in the MAC Filter table for this modem.	read-only	DisplayString
ModemMacFilterAddr7	A MAC Filter address in the MAC Filter table for this modem.	read-only	DisplayString
ModemMacFilterAddr8	A MAC Filter address in the MAC Filter table for this modem.	read-only	DisplayString

EtherLoop Traps

The EtherLoop Enterprise MIB defines notification events (traps) for alerting SNMP manager stations of events occurring in the EtherLoop Modem agent. The supported traps are SNMPv1 Traps and are detailed in Table A-8.

Table A-8
SNMPv1 Traps supported by EtherLoop Enterprise MIB

Event Number	Name	Description	Objects
3 (1&2 obsolete.)	coModemDownEvent	The CO modem identified by the objects has a link status of down and is not communicating.	coModemIdMdmIndex coModemPhyAddr coModemLocation
4	coModemUpEvent	The CO modem identified by the objects was previously down but now has a link status of up and is communicating.	coModemIdMdmIndex coModePhyAddr coModemLocation
5	cpeModemDownEvent	The CPE modem identified has a link status of down and is not communicating.	cpeModemIdMdmIndex cpeModePhyAddr cpeModemLocation
6	cpeModemUpEvent	The CPE modem identified by the objects was previously down but now has a link status of up and is communicating.	cpeModemIdMdmIndex cpeModePhyAddr cpeModemLocation
7	modemAgentColdStartEvent	The SNMP subagent is restarting.	

EloopSwitch MIB

The YesWare SNMP Agent supports an Elastic Networks eloopSwitch private MIB for managing ethernet switches configured on the eth1 (private side) of the YesWare Server. The eloopSwitch MIB is implemented under the Enterprises tree under the Elastic Networks private Object Identifier. The MIB is a SNMPv2 compliant MIB that conforms to RFC 1902.

The EloopSwitch MIB (enelsw.mib) defines objects to report the number of switches and number of switches down, and defines a table of objects to report the status of each switch. SwitchUp and SwitchDown traps are configurable for each switch.

Details of these objects are given in the following subsections.

EloopSwitch system objects

Objects to return information about the number of Ethernet switches configured on the system are supported. An object to report the number of switches present and an object to report the number of switches present that have a status of down are provided.

Figure A-5 shows an example screen shot for the EloopSwitch objects. Table A-9 details the MIB variables for the EloopSwitch objects.

Figure A-5
EloopSwitch System Objects managed by SNMPc Manager from CastleRock

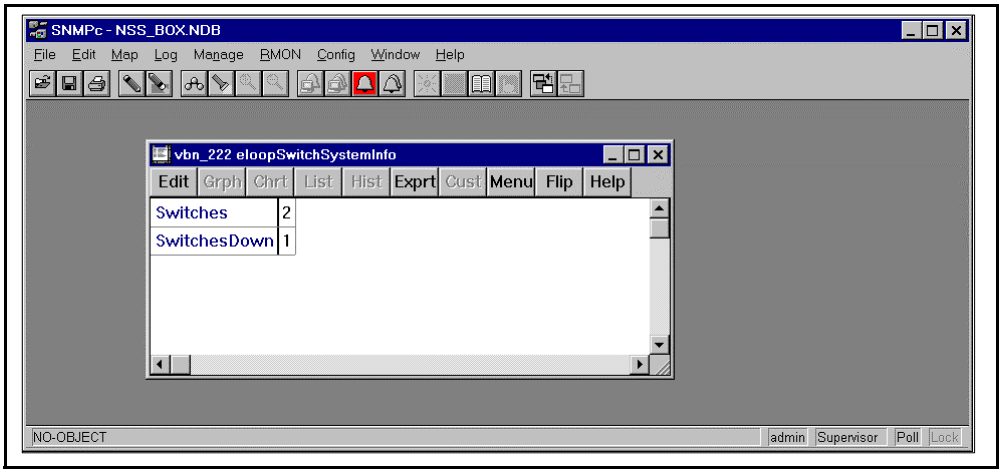

SNMPc - NSS_BOX.NDB
File Edit Map Log Manage RMON Config Window Help
vbn_222 eloopSwitchSystemInfo
Edit Grph Chrt List Hist Exprt Cust Menu Flip Help
Switches 2
SwitchesDown 1
NO-OBJECT
admin Supervisor Poll Lock

Table A-9
MIB variables for the EloopSwitch objects

Object Name	Description	Access	Syntax
swNumberSwitches	The number of ethernet switches configured in the YesWare System.	read-only	Integer32
swNumberSwitchesDown	The number of ethernet switches configured in the YesWare System that are reporting a status of down.	read-only	Integer32

EloopSwitch Table

The EloopSwitch Table defines variables that are associated with each configured ethernet switch in the system. The table contains a row for each switch in the system.

Figure A-6 shows an example screen shot for the EloopSwitch Table. Table A-10 on page A-16 details of the MIB variables.

Figure A-6
EloopSwitch Table managed by SNMPc Manager from CastleRock

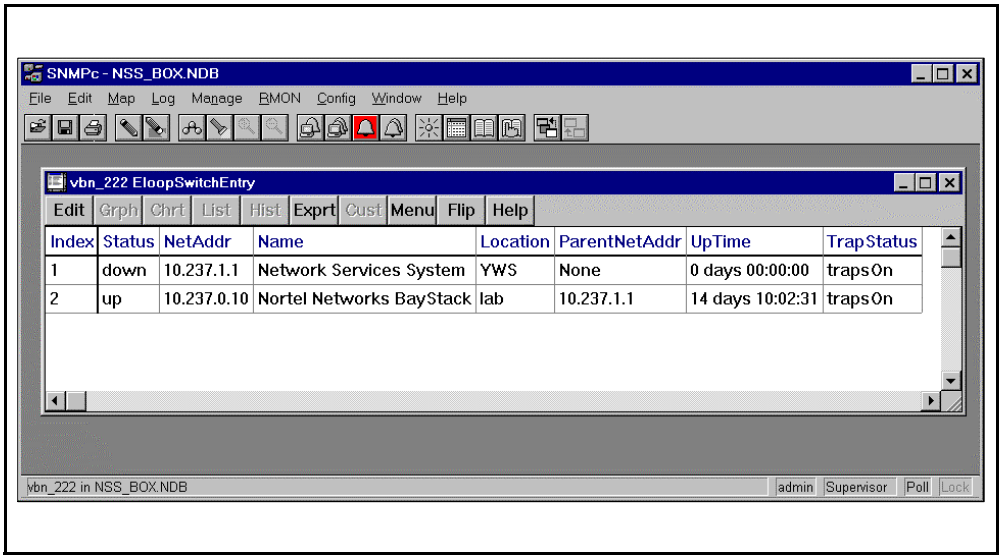

SNMPc - NSS_BOX.NDB
File Edit Map Log Manage RMON Config Window Help
vbn_222 EloopSwitchEntry
Edit Grph Chrt List Hist Exprt Cust Menu Flip Help
Index Status NetAddr Name Location ParentNetAddr UpTime TrapStatus
1 down 10.237.1.1 Network Services System YWS None 0 days 00:00:00 trapsOn
2 up 10.237.0.10 Nortel Networks BayStack lab 10.237.1.1 14 days 10:02:31 trapsOn
vbn_222 in NSS_BOX.NDB
admin Supervisor Poll Lock

Table A-10
EloopSwitch Table

Object Name	Description	Access	Syntax
swTableIndex	The index for each switch interface. The index remains constant from one initialization of the agent to another and uniquely identifies each switch.	read-only	Integer32
swTableStatus	The current status of this switch.	read-only	INTEGER up down polling
swTableNetAddr	The Network or IP address of the switch.	read-only	DisplayString
swTableName	The administratively assigned name for the switch.	read-only	DisplayString
swTableLocation	The physical location of the switch.	read-only	DisplayString
swTableParentNetAddr	The Network or IP address of the switch that is the parent of this switch in the network hierarchy.	read-only	DisplayString
swTableUpTime	The time (in hundredths of a second) since the network management portion of the switch was last re-initialized.	read-only	TimeTicks
swTableTrapStatus	The status of sending traps for this switch. Descriptions for the options are given below. **trapsOn**– all traps are on (enabled) for this modem. **trapsOff** – all traps are off (disabled) for this modem. **switchDownTrapOff** – the switchDown trap is off (disabled) for this switch. The switchUp trap is enabled. enabled.	read-write	INTEGER trapsOn trapsOff (3) switchDownTrapOff

EloopSwitch Traps

The EloopSwitch Enterprise MIB defines notification events (traps) for alerting SNMP manager stations of events regarding ethernet switches in the YesWare SNMP Agent. The supported traps are SNMPv1 Traps and are detailed in Table A-11.

Table A-11
EloopSwitch Traps

Event Number	Name	Description	Objects
1	switchDownEvent	The switch identified by the objects has a status of down and is not communicating.	swTableIndex swTableNetAddr
2	switchUpEvent	The switch identified by the objects previously had a status of down. The switch is now communicating and has a status of up.	swTableIndex swTableNetAddr

MIB II System Group MIB

The EtherLoop SNMP Agent supports the system group from the MIB II standard MIB. MIB II is a standard MIB defined by RFC 1213. (For additional information on MIB II refer to the RFC). The MIB II system group defines seven objects that are used for system identification. The objects are detailed in Table A-12.

Table A-12
MIB II System Group MIB Objects

Object Name	Description	Access	Syntax
sysDescr	A textual description of the entity. This value should include the full name and version identification of the system's hardware type, software operating-system, and networking software. It is mandatory that this only contain printable ASCII characters.	read-only	DisplayString (Size (0..255))
sysObjectID	The vendor's authoritative identification of the network management subsystem contained in the entity. This value is allocated within the SMI enterprises subtree (1.3.6.1.4.1) and provides an easy and unambiguous means for determining "what kind of box" is being managed. For example, if vendor "Flintstones, Inc." was assigned the subtree 1.3.6.1.4.1.4242, it could assign the identifier 1.3.6.1.4.1.4242.1.1 to its "Fred Router".	read-only	OBJECT IDENTIFIER
sysUpTime	The time (in hundredths of a second) since the network management portion of the system was last re-initialized.	read-only	TimeTicks
sysContact	The textual identification of the contact person for this managed node, together with information on how to contact this person.	read-write	DisplayString (Size (0..255))
sysName	An administratively-assigned name for this managed node. By convention, this is the node's fully-qualified domain name.	read-write	DisplayString (Size (0..255))
sysLocation	The physical location of this node (e.g., "telephone closet, 3rd floor").	read-write	DisplayString (Size (0..255))
—continued—			

Table A-12
MIB II System Group MIB Objects

sysServices	A value which indicates the set of services that this entity potentially offers. The value is a sum. This sum initially takes the value zero, Then, for each layer, L, in the range 1 through 7, that this node performs transactions for, 2 raised to (L - 1) is added to the sum. For example, a node which performs only routing functions would have a value of 4 (2^(3-1)). In contrast, a node which is a host offering application services would have a value of 72 (2^(4-1) + 2^(7-1)). Note that in the context of the Internet suite of protocols, values should be calculated accordingly: layer functionality 1 physical (e.g., repeaters) 2 datalink/subnetwork (e.g., bridges) 3 internet (e.g., supports the IP) 4 end-to-end (e.g., supports the TCP) 7 applications (e.g., supports the SMTP) For systems including OSI protocols, layers 5 and 6 may also be counted.	read-only	INTEGER (0..127)
TABLE END			

MIB II SNMP Group MIB

The EtherLoop SNMP Agent supports the SNMP group from the MIB II standard MIB. MIB II is a standard MIB defined by RFC 1213. . (For additional information on MIB II refer to the RFC). The MIB II SNMP group defines objects that show SNMP protocol usage and statistics for the SNMP Agent. The objects are detailed in Table A-13.

Table A-13
MIB II SNMP Group Objects

Object Name	Description	Access	Syntax
snmpInPkts	The total number of SNMP Messages which were passed from the SNMP protocol entity to the transport service.	read-only	Counter
snmpOutPkts	The total number of SNMP Messages which were passed from the SNMP protocol entity to the transport service.	read-only	Counter
snmpInBadVersions	The total number of SNMP Messages which were delivered to the SNMP protocol entity and were for an unsupported SNMP version.	read-only	Counter
snmpInBadCommunityNames	The total number of SNMP Messages delivered to the SNMP protocol entity, which used a SNMP community name not known to said entity.	read-only	Counter
snmpInBadCommunityUses	The total number of SNMP Messages delivered to the SNMP protocol entity, which represented an SNMP operation, which was not allowed by the SNMP community named in the Message.	read-only	Counter
snmpInASNParseErrs	The total number of ASN.1 or BER errors encountered by the SNMP protocol entity when decoding received SNMP Messages.	read-only	Counter
snmpInTooBigs	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is `tooBig'.	read-only	Counter
snmpInNoSuchNames	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is `noSuchName'.	read-only	Counter
snmpInBadValues	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is `badValue'.	read-only	Counter
—continued—			

Table A-13
MIB II SNMP Group Objects

snmpInReadOnlys	The total number valid SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is `readOnly'. It should be noted that it is a protocol error to generate an SNMP PDU which contains the value `readOnly' in the error-status field, as such this object is provided as a means of detecting incorrect implementations of the SNMP.	read-only	Counter
snmpInGenErrs	The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is `genErr'.	read-only	Counter
snmpInTotalReqVars	The total number of MIB objects which have been retrieved successfully by the SNMP protocol entity as the result of receiving valid SNMP Get-Request and Get-Next PDUs.	read-only	Counter
snmpInTotalSetVars	The total number of MIB objects which have been altered successfully by the SNMP protocol entity as the result of receiving valid SNMP Set-Request PDUs.	read-only	Counter
snmpInGetRequests	The total number of SNMP Get-Request PDUs which have been accepted and processed by the SNMP protocol entity.	read-only	Counter
snmpInGetNexts	The total number of SNMP Get-Next PDUs which have been accepted and processed by the SNMP protocol entity.	read-only	Counter
snmpInSetRequests	The total number of SNMP Set-Request PDUs which have been accepted and processed by the SNMP protocol entity.	read-only	Counter
snmpInGetResponses	The total number of SNMP Get-Response PDUs which have been accepted and processed by the SNMP protocol entity.	read-only	Counter
snmpInTraps	The total number of SNMP Trap PDUs which have been accepted and processed by the SNMP protocol entity.	read-only	Counter
snmpOutTooBigs	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is `tooBig.'	read-only	Counter
snmpOutNoSuchNames	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status is `noSuchName'.	read-only	Counter
—continued—			

Table A-13
MIB II SNMP Group Objects

snmpOutBadValues	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is `badValue'.	read-only	Counter
snmpOutGenErrs	The total number of SNMP PDUs which were generated by the SNMP protocol entity and for which the value of the error-status field is `genErr'.	read-only	Counter
snmpOutGetRequests	The total number of SNMP Get-Request PDUs which have been generated by the SNMP protocol entity.	read-only	Counter
snmpOutGetNexts	The total number of SNMP Get-Next PDUs which have been generated by the SNMP protocol entity.	read-only	Counter
snmpOutSetRequests	The total number of SNMP Set-Request PDUs which have been generated by the SNMP protocol entity.	read-only	Counter
snmpOutGetResponses	The total number of SNMP Get-Response PDUs which have been generated by the SNMP protocol entity.	read-only	Counter
snmpOutTraps	The total number of SNMP Trap PDUs which have been generated by the SNMP protocol entity.	read-only	Counter
snmpEnableAuthenTraps	Indicates whether the SNMP agent process is permitted to generate authentication-failure traps. The value of this object overrides any configuration information; as such, it provides a means whereby all authentication-failure traps may be disabled.	INTEGER	enabled disabled
TABLE END			

Procedure A-1
Configuring SNMP

Use the following procedure to configure start-up parameters for SNMP trap information.

Background summary

SNMP describes the protocols and object definitions necessary to manage devices on a network. EtherLoop modems do not support the SNMP protocol directly; however, the modems do support a proprietary ModeX protocol. The NSS implements both protocols and serves as the SNMP Proxy Agent for the EtherLoop modems.

A Network Management Station refers to a host system running the SNMP protocol. The Network Management Station is used to communicate with and manage SNMP agents. The exchange of information between the network manager and agent is dictated by the Management Information Base (MIB), which defines all managed elements (variables that may be queried or set). Elastic Networks does not produce or distribute network management stations. However, the EtherLoop MIB may be loaded into any commercially available network manager such as HP OpenView or Castlerock SNMPc, which may be used to manage the modems. For more information about the EtherLoop MIB, see "YesWare EtherLoop MIB" on page A-4.

There are three parameters that you may configure for the SNMP Proxy Agent:

Trap IP: This is the destination for SNMP traps. A trap is an unsolicited message or report from a managed node on an event that occurred on the managed system. The Trap Destination IP is typically the SNMP Network Manager IP address. There are two supported traps:

modemAgentColdStartAlarm: Reports when the SNMP agent is started.

modemDownAlarm: Reports when the modem link is down.

Timeout: The default timing value is 2. Do not change this value unless you are directed to do so by your Elastic Networks technical support representative.

Database Name: This is the name of the modem database. The system provides a default database name. Do not change this name unless you are directed to do so by your Elastic Networks technical support representative.

—continued—

Procedure A-1 (continued)
Configuring SNMP

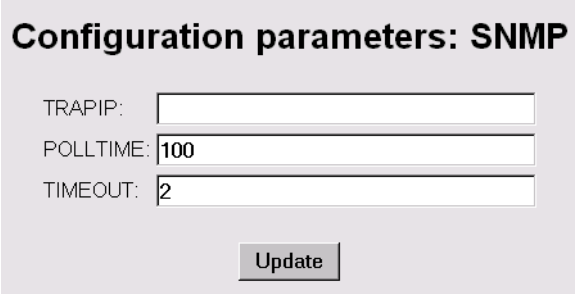
Requirements

To perform this procedure, you need the following:

- The EtherLoop MIB file has been obtained from Elastic Networks. This file is named *enelmdm0.mib* and is distributed by Elastic Networks on a 3.5” floppy disk.

Action

Step	Action
1	Load the *enelmdm2.mib* file into an SNMP network management station on the network (follow the instructions provided with your network management software).
2	From the YesWare Main Menu, choose **NSS Maintenance**. *The NSS Maintenance menu appears.*
3	Click **SNMP Setup**. *The SNMP setup dialog appears.*



4	Enter the Trap IP address. *Do not change TIMEOUT or POLLTIME unless you are directed to do so by your Elastic Networks technical support representative.*
5	Click **Update.**

STOP

You have completed this task.

Procedure A-2
Monitoring and Changing the Status of the SNMP Proxy Agent

The SNMP Proxy Agent retrieves statistics about the operation and performance of modems attached to the network. If you do not plan to use the SNMP information generated by the Proxy Agent, you may want to stop the Proxy Agent. This procedure explains how to start, stop, and monitor the status of the SNMP Proxy Agent.

Background

The YesWare SNMP Proxy Agent supports the SNMP operations listed in the following table:

Table A-14
SNMP Operations

SNMP Operation	Description
SNMP GET - Transmit Speed	Returns the modem Transmit Speed variable.
SNMP GET - Receive Speed	Returns the modem Receive Speed variable.
SNMP GET - Transmit Byte Count	Returns the modem Transmit Byte Count variable.
SNMP GET - Receive Byte Count	Returns the modem Receive Byte Count variable.
SNMP GET - Firmware Revision	Returns the modem Firmware Revision variable.
SNMP GET/SET - Broadcast Storm	Returns or sets the modem Broadcast Storm variable.
SNMP GET/SET - Maximum Speed	Returns or sets the modem Maximum Speed variable.
SNMP GET/SET - VC Table	Returns or sets VC Table
SNMP TRAP - modemAgentColdStartAlarm	Autogenerates signal when the SNMP agent is started.
SNMP TRAP - modemDownAlarm	Autogenerates signal when the modem link is down.

You can test the supported SNMP operations from your SNMP network management station.

—continued—

Procedure A-2 (continued)
Monitoring and Changing the Status of the SNMP Proxy Agent

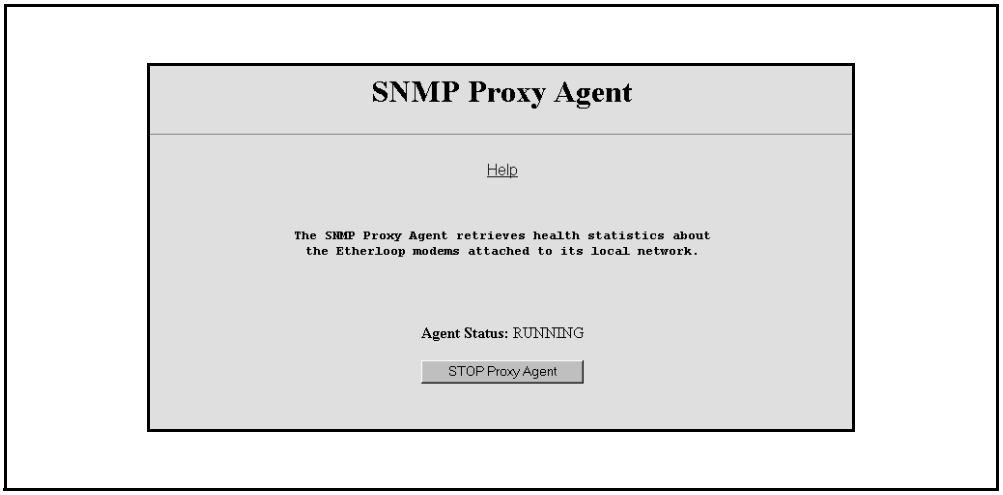
Action

Step	Action

1 From the YesWare Main Menu, click **SNMP Proxy Agent**.

The SNMP Proxy Agent dialog appears as shown in Figure A-7.

Figure A-7
SNMP Proxy Agent dialog


SNMP Proxy Agent
Help
The SNMP Proxy Agent retrieves health statistics about the Etherloop modems attached to its local network.
Agent Status: RUNNING
STOP Proxy Agent

The current status of the SNMP Proxy Agent is displayed. If the Proxy Agent is running, the Stop Proxy Agent button is enabled. If the SNMP agent is not currently running, the Start Proxy Agent button is enabled.

2 Click the appropriate button to start or stop the Proxy Agent.

STOP

You have completed this task.

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